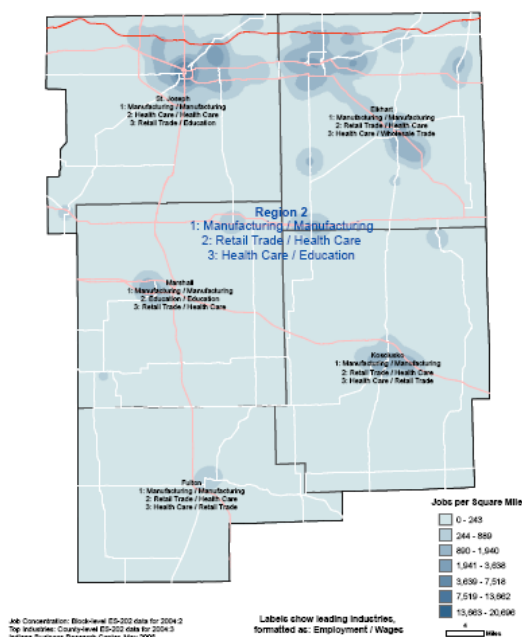


Strategic Skills Initiative

Phase Three Report

Regional Solutions

Top Industries by Employment and Wages



Northern Indiana
Workforce Investment Board, Inc.
**VISIONARY LEADERSHIP FOR
TOMORROW'S WORKFORCE**

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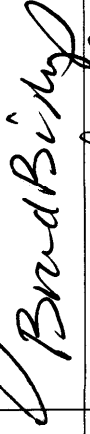
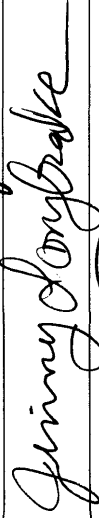





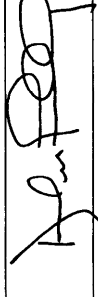
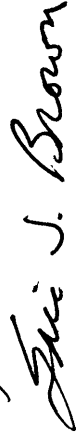


Strategic Skills Initiative Regional Solutions Report Cover Sheet

Economic Growth Region # 2 : Northern Indiana

1. Funding Request			
Requested: \$ 3,292,210		Start Date: upon receipt	
End Date: August, 2008			
2. Designated Grantee			
Organization Name: Northern Indiana Workforce Investment Board		Telephone Number: 574-239-2380	
Address: 401 East Colfax Avenue, Suite 307		Fax Number: 574-239-2386	
Address: P.O. Box 1048		Email Address:	
City: South Bend	State: IN	Zip + 4: 46617-2736	
County: St. Joseph	FEIN: 35-1588931		
3. Contact Person			
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms. <input type="checkbox"/> Dr. <input type="checkbox"/> Other	First Name: Juan		Last Name: Manigault
	Title: President and CEO		Telephone Number: 574-239-2380 ex. 212
Address: 401 East Colfax Avenue, Suite 307		Fax Number: 574-239-2386	
Address: P.O. Box 1048		Email Address: JAM200@niwib.com	
City: South Bend	State: IN	Zip + 4: 46617-2736	
Member:	Name:		
Lead Team Members			
Name:	Industry:	Signature:	Title:
SEE ATTACHED	SIGNATURE	PAGE	

Signature Page:

Name	Industry	Title	Signature
Juan Manigault	Core Agent	President and CEO Northern Indiana Workforce Investment Board	
Jack Isles	Advanced Manufacturing	General Manager Bull Moose Tube Company	
Brad Bishop	Life Sciences	Director of Corporate Communications Zimmer Corporation	
Jinny Longbrake	Health Care	Director of Human Resources Memorial Hospital	
Michael Busch	Economic Development	Executive Director Fulton Economic Development Corporation	
Lyn Batzer	Education	Dean of Academic Affairs Ivy Tech Community College	
Dave Gibson	Insurance and CBO/FBO	Chairman of the Board Gibson Insurance Group	
Michael Patton	CBO/FBO	President Urban League of South Bend and St. Joseph County	
Federico Thon	CBO/FBO	Assistant to the Mayor Hispanic Chamber of Commerce	
David Findlay	Financial Services	Executive Vice President and CFO Lake City Bank	
Eric Brown	Organized Labor	Vice President, AFL-CIO Central Labor Council	

All counties represented.

Occupational Solutions Matrix for EGR2

Items:	Grade:	<i>Solutions Report topic/page guide</i>
<i>Thorough and Logical Methodology:</i>		
1. Clear statement of how recommended methodology was employed	1-10	pp. 5, 21, 22
2. Consortium used IDWD Web-based Workshops	Y/N	p. 5; Appendix, p. 4
<i>Description of Solutions:</i>		<i>Solutions Summary graphic, p. 4</i>
3. Clear description of each Solution 3a. Solution Rationale and Feasibility	1-10	pp. 5, 7, 9, 11, 13, 14, 16; Summary p. 21 pp. 6, 8, 10, 12, 13-14, 15, 16-17
4. Evidence that solutions have potential to address short and long-term shortages	1-10	Solution #1, pp. 5, 31-35; #2 pp. 7, 35-40; #3, pp. 9, 36; #4, p. 11, 40-41; #5, p. 13, 41-42; #6, pp.14, 43-44; #7 p.16, 45-54
5. Estimates of the contribution to shortages Y/N		Solution #2, p. 7; #3, p.10; #4, p.12; #5, p.13; #6, p.15; #7, p.16
6. Re-statement of specific shortages and root causes Y/N		Summary, p. 5. Root cause 1, p. 6; RC 2, p. 7; RC 3, p. 9; RC 4, p.11; RC 5, p. 13; RC 6, p.15; RC 7, p.16.
7. Clear "line-of-sight" analysis	1-10	Embedded in answers #4, 5 above.
<i>Action Plan:</i>		
8. Includes "Who will do what"	Y/N	Solution #1, p. 7; #2, pp. 8-9; #3, p. 11; #4, pp. 13-13; #5, p. 14; #6, pp.15-16; #7, p.17
9. Includes expected results	Y/N	Same pages as item #4, above
10. Describe plan to reallocate/leverage existing public and private resources	1-10	Embedded in detailed budget, pp. 25-30
<i>Response from Outside Agencies:</i>		
11. Describes outside agencies' responses to the proposed solutions	Y/N	p. 18, letters pp. 55-89
12. Discusses how agencies plan to be involved in implementation	1-10	Same as item #8 above, and letters pp. 55-89
<i>Funding Request:</i>		
13. Detailed listing of funds required to implement solutions	1-10	Detailed Budget pp. 25-30; program priorities (Quick Wins, Emergent Influences, and Skill Builders), p. 22; Funding Sources , p. 24
14. Justification of funds	1-10	See Rationale, item 3a, above; also found in Detailed Budget, pp.25-30
15.Appropriateness of funds	1-10	See Solutions item 4, above; Detailed Budget, pp.25-30 Funding sources, p.24
16. Clear "line-of-sight" analysis	1-10	Budget Summary, p. 23; Detailed Budget, pp. 25-30; see item 4, above.
17. Distinguishes between one-time funds and recurring funds	Y/N	Chart of Funding Sources and Detailed Budget, pp. 25-30
<i>Timeline:</i>		
18. Includes important implementation dates	Y/N	Implementation dates and timeframes, pp. 17-20
19. Includes listing of responsible parties	Y/N	Same as item 8, above
20. Describes resource/funding allocation	Y/N	Detailed Budget, pp. 25-30
<i>Regional Coalition and Industry Partner Engagement:</i>		
21. Regional Consortia were provided a participatory opportunity	Y/N	Regional Consortia involvement, p. 18; minutes of Consortia, Appendix; minutes of regional summit meetings, Appendix
22. Development of solutions was truly regional	1-10	p. 18; Consortium and Regional Summit meetings, Appendix
23. Industry partners were involved in entire process	1-10	Notes from Consortia and Regional Summit meetings, Appendix; Letters pp.55-89
24. Industry partners endorse project	Y/N	Letters, pp. 55-89
<i>Sustainability Measures:</i>		
25. Description of evaluation/measurement to be used	1-10	Solution #1, p.7; #2, p. 9; #3, p. 11; #4, p. 13; #5, p. 14; #6, p. 16; #7, p. 17
26. Includes how efficiently funds were used	Y/N	
27. Includes how closely the proposed timeline was followed	Y/N	
28. Includes how much shortages were actually reduced	Y/N	
29. Includes how prevalent the shortages still are	1-10	
30. Includes how the sectors/industries and/or clusters of industries have responded to the implementation of solutions	1-10	

The Northern Indiana region has had a long dependence on manufacturing. As we move towards a knowledge-based economy, our region will face tremendous challenges to build and maintain a strong and viable economy. The solution is the development of a strong vision that incorporates the history of our past, while identifying the opportunities of the future. Globalization and innovation are the key drivers that must incorporate the new technologies---nano, geo-spatial and biochemistry---into our future occupations and skill sets. The Strategic Skills Initiative provides our region the opportunity to build a dynamic vision and plan to assure that Northern Indiana participates fully in the economic agenda of the 21st Century.

- *Juan Manigault, President, CEO
Northern Indiana Workforce Investment Board*

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Executive Summary

Implementing 21st Century Approaches to Meet 21st Century Needs

Private industry constantly has to change to keep up with competition from abroad, new technologies, new processes, and a changing business environment. Yet, the public system that serves private industry is mired in traditional approaches to economic development, education, and training. Region 2's strategic skills initiative solutions aim for nothing less than re-imagining, rethinking, and remaking how the region anticipates and responds to the challenge of increasing our competitive position.

"We can't solve problems by using the same kind of thinking we used when we created them."

Albert Einstein

Traditional Approach	New Thinking and Doing
In the "survival of the fittest," businesses are left to find and implement best practices on their own. Public investments have traditional strings attached (e.g., number of disadvantaged people placed in entry level jobs).	The success of the region is understood to rest upon the success of all firms. Leading firms make a commitment to sharing successful approaches with others. Public investments support private investments to implement cutting-edge solutions. The goal is a high performance region that attracts more business and the best talent.
Learning is equated with "seat time" and takes place at physical institutions. Education is on a semester basis, built around a traditional school year.	Learning takes place in many venues: in schools, on-the-job, through the internet, at home, in a mobile lab. Mastery is more important than the number of class hours it took to get there. Open entry, open exit, "just in time" education is at the convenience of the learner, not the institution.
Students pay up front for their education. They may work while going to school, which divides their attention, adds to education time and increases the potential for attrition.	Students have access to revolving credit accounts for education. Credit accounts may be reimbursed by workers now working at a higher rate of pay, or reimbursed by employers who accept a time limited work commitment in exchange for tuition costs.
Many adults are left out of the mainstream of economic security because of gaps in their work ethic and essential skills. Traditional workforce intermediaries look for quick, stop-gap solutions that only address what a person needs to get a job <i>today</i> , not tomorrow. Employers have no way to verify that individuals have increased their skills to the point of being truly work-ready.	Modules targeted to adults are assembled into a program that holistically addresses gaps that keep job seekers from reaching their full potential. As they pass modules, their demonstrated skills are documented and certified to act as a work credential. The skills they learn prepare them to learn more, for adaptability and long-term work success.
Young people are expected to learn about careers through listening and reading. Students with a kinesthetic learning style are left unexposed to opportunities. Even youth who learn best by reading and listening don't grasp the reality of the world of work through these media.	Students get hands-on exposure to occupations, thus enhancing their awareness and piquing their interest. Virtual reality simulations bring exposure to all students, and worksite learning (e.g., internships) help young people understand the world of work.

The Seven Solutions Continuum

New thinking and doing are reflected in Region 2's seven solutions to today's and tomorrow's skill requirements. The solution areas are depicted as a continuum: if firms implement new process innovations, there will be a need for greater capacity to produce high level skills. The capacity for high level skills will be increased through virtual reality skill building and new academic programs. Students will have access to academic programs through education matching grants and revolving credit. Learners will be able to take advantage of education because they will possess the requisite life and basic skills. They will be able to apply their skills to high demand occupations because of their awareness of today's careers and tomorrow's opportunities. The availability of a well prepared workforce through funding of future skills will enable firms to implement new process innovations.



Methodology

Where did these solutions come from? First, the project researchers reviewed the *How-To* guidebook and, along with their research assistant, participated in the IDWD web-based workshops. Then came the hard work of deploying the recommended methodology:

- Reviewing best practices as reported in the literature and on the Internet;
- Making phone calls and personal visits to industry and education leaders to get their feedback on examples from the literature search, as well as to learn about new ideas;
- Facilitating separate meetings of education and industry partners for manufacturing and health care to test potential solutions with the experts;
- Researching possible implementation mechanisms;
- Making more phone calls and personal visits with partners to confirm commitment, roles, and timeframes.
- Identifying other grant opportunities that will help expand and sustain our efforts.
- Developing solutions specific to identified root causes.
- Investigating costs, timing, and returns-on-investment of various solutions; and,
- Developing a strong agreement among SSI personnel as to program priorities.

In working with our consortium and industry and education partners, we learned what interventions are most likely to have the desired short- and long-term impact on our region's competitive position. We learned that the SSI initiative cannot be the solution to some problems, but that it is appropriate for jump-starting or seeding solutions for others. We learned about the fears and concerns of our partners so we could address those concerns in implementation. And finally, we learned that the leaders in this region are ready to work together to re-imagine a bright new future for five counties in northern Indiana.

The following section walks the reader through the seven proposed solution areas in greater detail and outlines the effect they will have on skill shortages. The solution areas are numbered the same as in the above graphic. The root causes referenced in the text are described more fully in the Root Causes report, and thus will not be re-described here.

[Whenever this symbol ★ appears in the text, it means elaboration on that subject may be found in the *Additional Commentary* section of this report.]

A timeline for action for all the solutions is in the Timeline section. The budget for all solutions is in the Budget section.

Regional Solutions and Their Impacts

The current and future gaps identified in the initial strategic skills report were:

<u>Medical Assistants</u>	current: 11, future: 11	<u>Supervisors</u>	current: 55, future: 50
<u>Respiratory Therapist</u>	current: 8, future: 10	<u>Painters</u>	current: 30, future: 30
<u>Registered Nurse</u>	current: 145, future: 127	<u>Welders</u>	current: 68, future: 55
<u>Coders</u>	current: 8, future: 6	<u>CNC Machinists</u>	current: 31, future: 17

Solution 1: Process Innovation

- **Networking meetings** will be held with CPAs, bankers, lawyers to identify potential firms for Executive Team Briefings.
- First-person **Executive Team Briefings** led by industry leaders who have successfully implemented innovations. Twenty briefings per year will be conducted.
- **Process Seminar Scholarships** will be awarded to three companies per year to implement process solutions.

Root Cause

Reliance on traditional and inefficient practices, approaches, and technologies.

Occupation(s)

All targeted manufacturing occupations.

Anticipated Result: Short and Long Term Contribution to Shortage

Long term: process innovations in the workplaces of EGR2 are expected to not only reduce shortages in the targeted occupations today, but also prevent shortages in other occupations in the future. If the solution is successful, any subsequent shortages would be firm-specific and temporary as market forces would attract and retain the highest talent. The anticipated result is that new processes will result in production savings that will result in wage increases for workers. A numerical impact on shortages cannot be estimated, but innovation implementation, productivity gains, and wage gains can and will be tracked.

Rationale/Feasibility

CEOs and managers may read about ☆ lean practices, the theory of constraints, the ☆ 7 kinds of waste, the ☆ "5 S's", and other aspects of lean manufacturing, but they may not understand how to apply the principles in their own workplaces. To turn innovation from theory into reality, EGR2 will bring first-hand accounts of successful innovations directly to area employers, facilitate their thinking, and provide seed money to encourage adoption:

- First-hand presentations by successful CEOs (or designee) will be given at **Executive Team Briefings** over breakfast. The speakers will provide personally meaningful accounts of experiences with implementing innovative approaches in manufacturing. A first-person account will be internalized by the listeners much more readily than an article in a trade magazine. We anticipate 20 breakfast briefings per year. The success of the briefing will be improved through careful identification of the companies selected to participate. Identification will be made through our **networking meetings** with professionals who closely observe companies in ways we cannot: CPAs, bankers, and lawyers.
- **A Process Seminar** will immediately follow the presentations. A facilitator will lead the discussion to help participants think through how they could implement new practices in their workplaces. The facilitated seminar will ensure that firms see a way to *act* on what they learned. Together, the breakfast, first-hand presentation, and seminar will take no more than 1.5 hours to make it convenient for employers to participate.
- If process innovations are adopted, employees will need to implement those processes. ☆Seed money (process seminar scholarships) will be available that will fund 35% of the total cost of the project. Eligible employers must be willing to match public resources in order to train their workers to be successful in a non-traditional environment. This is done under the premise that the government's role should be that of "*seed capitalist*" for training, encouraging and enabling communication between business people and education providers, rather than that of "*bankroller and bureaucracy builder*." More highly trained workers working in high-performance workplaces should result in higher wages, thus attracting and keeping the best talent and the best companies in the region. If doesn't matter how much training is provided to workers, if the workers are made to work under traditional, outmoded processes, their training will be wasted and the firm's competitive position will not be improved.

Executive Team Briefings (☆Executive Breakfasts) are totally feasible and show evidence of success. They are used throughout the business world to share information and discuss strategies. For example, since 1997, Hay Group has partnered with FORTUNE magazine on their annual survey to report and research the World's and America's Most Admired Companies. In Canada, Hay Group¹, a strong consulting service, hosts an annual series of executive breakfasts on the research results of the FORTUNE study. The theme of this year's presentation is **INNOVATION**. How do the Most Admired plan for and nurture innovation in their organizations? What are the commonalities among the "innovative" and what are the sweeping implications for organizations that "pave the way"? To identify potential participants from EGR2 firms, there will be executive briefs with the professionals who have insights into the firms in the region: bankers, CPAs, and lawyers, in order to establish a referral network.

¹ www.HayGroup.com

Action Plan

Regional Workforce Board 2 (RWB2) will:

- Facilitate the **referral network** to identify firms for Executive Team Briefing Breakfasts.
- Organize **Executive Team Briefing** breakfasts (secure space, select menu, develop agenda, secure speakers, market the meetings, match successful CEOs appropriately with targeted firms)
- Facilitate the implementation workshop that follows the speaker.
- Develop applications for seed money for innovations.

Sustainability Measures

Quarterly reports on the SSI initiative will include: 1) number of Executive Team Briefings held that quarter; 2) the number of industry partners who attended; 3) the actual cost compared with the estimate; 4) results of satisfaction surveys of participants; 5) the number of applications for process seminar scholarships approved; 6) actual match generated; 7) for completed innovation projects, documented increases in productivity and wages, and 8) status of efforts to obtain additional funds for the process seminar scholarships account. Since this is a long-term solution, there will be no report on how shortages were actually reduced. Data will be gathered from the involved employers by RWB2 staff. A decision will be made after the first year regarding the ongoing feasibility and support for this solution to determine whether funds for the solution should be redirected to another use. If successful, the solution will be sustained into Year 3 through private resources that pay for the breakfasts, and assistance provided to companies by RWB2 staff to seek state training dollars for seed money for innovations.

Solution 2: Virtual Reality (VR) Skill Building

- Providing state of the art **mannequins** for a portion of the Registered Nurse and Respiratory Therapist clinicals to reduce one training bottleneck.
- Assist education partners in providing skills-building training using state-of-the-art technology.
- Assisting firms and schools in accessing **virtual reality training**, including CNC, welding, and painting for the transportation equipment industry, to bring skilled workers to the line more quickly and with less training cost.

Root Cause

Lack of education and training capacity. RNs lack sufficient clinical sites, which require a **teacher/student ratio of 1:10**. Respiratory Therapists have no local education program or corresponding clinical sites. CNC training programs are not well distributed geographically to provide training to every corner of the region. Welders lack upward mobility skill training. Painters lack any training program at all.

Occupation(s)

Registered Nurses, Respiratory Therapists (RT), CNC Operator, Welders, and Painters.

Anticipated Result: Short and Long Term Contribution to Shortage

RN: short-term, may reduce the current and future gap by 20 per year. In combination with other solutions, may reduce the gap by 50-70 per year.

RT: moderate term, in combination with the solution to fund a local RT program at Ivy Tech, will eliminate the shortage.

CNC: short term, may reduce the current and future gaps by half, since VR training can fulfill as much as two-thirds of the training required.

Welders: moderate-term, may reduce the future gap by half. The VR solution is moderate term, because while one option has been developed, it is not yet available in the US., and the other option requires developmental time by an Indiana company.

Painters: moderate term. There is no training program for painters of transportation equipment, and not even appropriate VR training. The curriculum and VR application will have to be developed before painters can be trained via this method.

Rationale/Feasibility

- All virtual reality applications: Real life experience may be the best way to learn, but it is often expensive, dangerous, or not possible. Virtual Reality training can dramatically reduce the cost of delivering education and training by decreasing learning time for students and instructors. Scenarios can be created with specific learning in mind. The need for expensive and dedicated training equipment in the form of actual laboratories, or extra equipment for training equipment is reduced for most applications. VR enables learners to be distributed over a wide geographical area. Less supervision is required. There are no material costs or quality problems like those caused by trainees using real equipment on the factory floor; nor is there a risk of injuring real patients in a medical facility. VR reinforces best practices, can easily change the skill level difficulty of instruction, and provides immediate and measurable feedback on student progress.
- Mannequins: The University of Miami/Jackson Memorial Hospital Center for Patient Safety in Miami is among many schools that have incorporated the use of mannequins into clinical training with tremendous success. For about 18 months, the center has used an old operating room to train trainees and nurses, using the mannequins in a variety of clinical interventions --from small procedures such as placing IV lines, to resuscitation and crisis management. The trainees range from high school and college students to medical school nurses and residents, to faculty.
- CNC VR training can be down-linked from a supplier located in Indianapolis. The VR CNC training program allows students and researchers to view and interact with a near-physically accurate simulation of CNC milling machines and lathes. Virtual instructors will give students step-by-step and hands-on training on the various processes required to operate the machines. The machines can be used to test, experiment and optimize CNC codes and manufacturing process plans before the student transitions into machining on the physical machine.
- Welding will use the latest technology in VR. The only viable – viable, that is, in terms of both effectiveness and cost - current product is available only in Europe at this time. An official in France noted that “Thanks to its interactivity, students quickly learn welding techniques and instructors have a record of their work. This vastly increases the effectiveness of the training.”² Alternatively, RWB2 will provide R&D funding to an Indiana-based firm that is developing a Welding VR simulation along the lines of their successful CNC system (see the additional commentary section on virtual reality training in manufacturing). RWB2 anticipates having one of the first VR welding programs in the U.S. that includes training in Tig, Mig, and stick techniques for vertical, horizontal, and submerged welding. A VR system for welding training simulates welding situations through a wide range of exercises and offers simultaneous control of the training process for several trainees at once.
- A training program for painters of transportation equipment is not yet developed. Local painters have said the VR training product currently on the market does not develop the right skills for what they do, so RWB2 will convene an advisory group, develop a curriculum, and release an RFP for development of appropriate VR training.

There is substantial evidence that VR training is feasible, cost effective, and learning-effective. Where applications currently exist, RWB2 will obtain those applications for on-going solution to the shortage. Where there is no program, RWB2 will ensure it is developed.

Action Plan

Regional Workforce Board 2 (RWB2) will:

- Establish a fund from which to award grants for educational institutions or hospitals to purchase state-of-the-art mannequins for health care labs and clinicals.
- Convene an advisory committee for painters of transportation equipment, facilitate development of a curriculum, and release an RFP for a VR application relevant to local employers' needs for painter skills.
- Purchase hardware, software, and licenses, as appropriate, for VR uses in welding and CNC. For welding, either an existing application from France will be procured, or R&D funds will be awarded to an Indiana firm to complete work on its program. A combination of approaches may be used: one unit may be purchased from France, with the rest of the funds used to develop the Indiana option.

Ivy Tech and IUSB will:

- Incorporate VR, via the use of state-of-the-art mannequins, into their RN and RT programs.

² <http://istresults.cordis.lu/index.cfm/section/news/tpl/article/BrowsingType/Features/ID/69636>

- Report back to RWB2 on successful incorporation, number of student users, instructor and student feedback, completion rates, and employment rates.
- Institute open lab time in CNC and welding so students from throughout the EGR2 area can come to practice on full-size machines prior to taking a certification examination.

Transportation Equipment firms will:

- Participate on the painter advisory committee to develop the curriculum and RFP and select a vendor for program development.

Sustainability Measures

Quarterly reports on the SSI initiative will include as appropriate to the solution for each occupation: 1) how the VR equipment and software were incorporated into education and training curricula; 2) the actual cost compared with the estimate; 3) the number of students receiving instruction in the quarter; 4) actual match generated; 5) instructor and student comments on their experience with the equipment; 6) the number of students completing each program; 7) the status of the painter advisory committee curriculum and RFP development; 8) status of responses to the RFP after it is released, target date for completion of the design and implementation of the VR training; 9) the status of options being pursued for welding; and 10) the overall impact of the solution on the shortages. Schools will report information to RWB for inclusion in the quarterly report. The equipment and software have long shelf-lives, so sustainability of the solution is assured.

Solution 3: Academic Programming and Skill Building/Training

- Academic Programming:
 - ◆ RNs: Fund start up cost to support one local MSN faculty position at IUSB and expand clinical space.
 - ◆ RTs: Fund start up cost to support an already-approved local respiratory therapy (RT) program at Ivy Tech.
 - ◆ RNs and RTs: create or expand clinical space at regional hospitals.
 - ◆ Medical assistants and coders: Fund additional education and training to enhance their job opportunities within healthcare, while training new MAs to fill the vacancies of those moving up the ladder (see Solution #4)
- Skill Building/Training
 - ◆ Supervisors: provide frontline ★supervisor training through a program of training modules, resulting in a portable certificate.
 - ◆ CNC, welding, and painters: fund Advanced manufacturing short-term training matching grants (instructor/lab training as a culmination of the VR training in the previous solution).
 - ◆ Information technologies: provide short-term training matching grants for IT students seeking certification in network and software administration.

Root Cause

Lack of training capacity and funding for training. Nursing school faculty are in short supply and are inadequately funded, limiting the number of students that can be enrolled. There is no locally funded Respiratory Therapist program at all. Medical Assistants and Coders, who tend to quit because of low wages, need help building skills to qualify for higher paying jobs in health care, while new Medical Assistants take their places. Supervisors frequently lack relational and communication skills, and neither new Supervisors nor aspirants to the job are provided formal training in order to increase the pool of qualified front-line Supervisors. CNC and welding programs are inadequate to meet the need (numerically and/or geographically), and there are no training programs for Painters other than on-the-job training, which is slow and costly. Implementation and maintenance of virtual reality training programs, mannequins, sideband frequencies, and process innovations will require training of personnel to install, monitor, and repair new systems.

Occupation(s)

All targeted occupations.

Anticipated Result: Short and Long Term Contribution to Shortage

RN: short term, additional MSNs will reduce the Registered Nurse shortage by a minimum of 10 per instructor, per year (clinicals require a 10:1 student/teacher ratio, so adding one MSN-qualified instructor will reduce the shortage by 10, even in the absence of other MSNs or solutions).

Respiratory Therapy: moderate term (2 years – because the program of study can't enroll the first cohort any earlier than fall semester, 2006) The new program will eliminate the local shortage within 4 years.

MAAs: short term, with other solutions may eliminate the shortage.

Supervisors: short term, could potentially eliminate the shortage depending on the number of individuals who enroll in and complete the training modules. The short term shortage is 55 and long term is 50 annually; more students than that could potentially be trained in year's time.

CNC: moderate term, with other solutions may eliminate the shortage.

Painters: short term, with other solutions may eliminate the shortage.

Welders: moderate term, with other solutions may eliminate the shortage.

Rationale/Feasibility

- There are waiting lists for nursing programs and there are simply not enough faculty to deliver RN instruction. To fully close the current gap of 145 nurses, 15 additional nursing faculty would be needed in the region because of the 1:10 faculty/student ratio required for clinical instruction. At this time, there is also a shortage of Masters-degreed nurses (faculty in an RN program are required to possess or be working toward the MSN), so 15 faculty could not even be found. Through the SSI project, EGR2 intends to fund one faculty position in the IUSB Masters of Nursing degree program, which will immediately provide one or more state-qualified instructors to alleviate part of the RN shortage. (Another solution below addresses the shortage of Masters-degreed nurses). RWB2 will simultaneously pursue additional options, such as using hospital employees (like nurse practitioners) to supervise RN clinicals under the direction of nursing faculty.
- Ivy Tech has an approved Respiratory Therapy program, but no funding to implement it. By funding two RT faculty positions – a program director and adjunct faculty – a local program that would attract local residents could be initiated and totally eliminate the small, but critical RT shortage. The SSI funds will also fund other aspects of implementing the program, including physician oversight fees, lab equipment, and space.
- Even if sufficient nursing faculty can be hired, clinical space in the regional hospitals must be expanded to accommodate increased numbers of nursing students. Expanding clinical space through partnerships with hospitals can increase the number of students who graduate without having to wait for a clinical opening. The mannequins described in Solution 2 will contribute to expanded clinical training access and numbers.
- MAAs and Coders: a primary cause for the shortage for MAAs and Coders is low wages and inadequate funding for career ladder training that would help these individuals advance and stay within the health care field, while new MAAs and Coders fill the spaces they leave behind as they advance. By providing funds for additional education, we can keep them in the health care pipeline.
- Formal Supervisor training will address the lack of relational and communication skills noted among front-line Supervisors in manufacturing. Modular training can address skills that are not taught in technical programs, including Motivation and Morale, Conflict Resolution, and Communication Basics, and can present these modules on a just-in-time basis. Aspirants to supervisor positions can also participate in the classes, thereby expanding the pool of individuals with credentials to become supervisors.
- CNC, Welders, and Painters: CNC cannot be taught entirely through VR. Traditional training is still needed for a portion of the curriculum. For welders and painters, a satisfactorily thorough VR system does not currently exist, so traditional training in the workplace or in a school lab is necessary, and will continue to play a part in training even after VR applications are obtained.
- Information Technology specialists: Emergent industries utilizing advanced communications technologies available in EGR2 need workers certified in Cisco and Microsoft systems.

These solutions are feasible because of the buy-in and support from our education partners. Evidence of success may be found simply by looking at the on-going, sustainable education and training programs in these occupations around the country (with the exception of painters, whose skills are somewhat unique to the local transportation equipment industry)

Action Plan

Regional Workforce Board 2 (RWB2) will:

- Provide SSI funding to support start up costs for one faculty position in the local MSN program.
- Pursue additional options for relieving the RN clinical bottleneck.
- Provide SSI funding to support start up for the Respiratory Therapist program at Ivy Tech
- Jointly promote/market the supervisor training.
- Provide SSI funding for manufacturing training.
- Assess supply and demand of IT professionals and facilitate training as needed.

IUSB will:

- Recruit and hire the new MSN nursing faculty and provide classroom space for the additional class capacity.
- Develop expanded clinical space at hospitals.
- Provide quarterly reports to RWB2 containing the data required for quarterly reports.
- IUSB will market and facilitate supervisor training through their extended learning division.

Ivy Tech will:

- Recruit and hire personnel for the RT program, secure classroom space and equipment, and recruit students to the program.
- Provide quarterly reports to RWB2 containing the data required for quarterly reports

Sustainability Measures

Quarterly reports on the SSI initiative will include: 1) status of recruiting/hiring MSN; 2) number of additional RN students enrolled due to additional MSN faculty ; 3) retention rate of additional RNs; 4) status of RT program implementation; 5) number of RT students enrolled and retention rate; 6) number of RN and RT program completers and their placement rate; 7) number of supervisor training enrollments; 8) customer satisfaction from supervisor training; 9) number of additional CNC and welding students enrolled and retained; 10) number of painter trainees enrolled in newly developed program; 11) actual expenditures and actual match generated; 12) the impact of Solution 3 on reducing shortages.

Solution 4: Educational Assistance

- Create a **revolving education/training account** for tuition and supplies for individuals pursuing training in target occupations. A revolving credit account is a type of credit account that limits the total amount of money that may be owed and charges interest on outstanding balances. Students can borrow against the account so they can pay tuition without having to wait months for reimbursement. They will pay back into the account only after they are being paid for their new skills in the workplace (repayment may be made by the worker or by his/her employer).
- Provide educational **stipends** to individuals pursuing a degreed education in a targeted health care profession, including incumbent worker upgrades (e.g., assistance to BSNs to complete their MSNs so they can become faculty and train a greater number of RNs.)
- Provide healthcare oriented **English as a Second Language** to help limited English students pass Nursing Boards.

Root Cause

Lack of resources for education. Many prospective students do not have the financial resources to pay for the programs they need to qualify for shortage occupations. There is little incentive for RNs to pay for expensive MSN programs in order to teach, particularly when they are paid substantially less to teach than they would be in the clinical setting. [Note: Illinois' governor recently released a proposal aimed at attracting and retaining nursing school instructors, who are in short supply largely because advanced-degree nurses can make more money outside the classroom. The governor wants to make available \$1.5 million in grants this coming fiscal year that schools could use to graduate more nurses by adding teachers. An additional \$150,000 would be set aside to supplement the salaries of 15 nursing educators.³] Some students need to have their incomes subsidized while they receive their education, because family obligations would otherwise require that they work full time while going to school,

³ Chicago Sun-Times, February 7, 2006

leading to attrition from programs. Many bright limited-English speaking students need resources to prepare them to take school entrance exams; rather than general ESL classes, they need specific tutoring in the language skills that enable them to understand test questions and complete RN school or other exams with the necessary speed to finish all test questions

Occupation(s)

All targeted occupations leading to a degree and emerging occupations.

Anticipated Result: Short and Long Term Contribution to Shortage

RN: Long term for reducing some of the RN shortage, as funding for an MSN degree will require that a nurse first be in process of complete his/her own MSN, (which may take up to 2 years), and then teach a class of new RNs (another two years).

RN: moderate term: health-care ESL exam preparation courses will reduce the shortage of nursing students, in combination with other solutions, by up to 50 per year.

RN and RT: moderate term: assisting individuals to begin or finish degrees will depend on their current status and the number of credit hours they are able to handle per semester.

Rationale/Feasibility

A **revolving credit account** for individuals will provide a sustainable source of interest-free funds as graduates and employers reimburse the fund each semester. The revolving credit account premise has been used successfully across the country for promoting home ownership as well as education. For example, Baldwin-Wallace College in Ohio developed its own revolving credit program that allows students to pay tuition at the end of the semester. "Many employers need to verify satisfactory completion of classes before tuition is paid for a student's work. This means you don't receive the benefit until you've "made the grade." That makes good business sense, but doesn't always parallel a college's billing system."⁴

For BSNs who successfully become MSNs, the personal payback may be in the form of a committed period of teaching to an institution that agrees to pay the MSN tuition back to the credit account. This approach has been used successfully in other states and regions. For example, the State of Mississippi offers a Nursing Teacher **Stipend Program**. Participants must be fully admitted into an MSN program at a graduate school of nursing in Mississippi or fully admitted into the Ph.D. nursing program at the University of Southern Mississippi or the University of Mississippi Medical Center; agree to teach in an accredited school of nursing for no less than two years in the State of Mississippi upon completion of the degree, and achieve a minimum 3.0 grade point average each semester. Many individuals interested in upgrading their skills through a degree can't afford to pursue education because they lack financial resources for living expenses. If a stipend substitutes for some of their lost income, they will be more likely to enroll in and complete their education.

The healthcare-specific ESL training for limited-English students has been supported as a feasible solution by the academic community. Educators have pointed out that the entrance exams for nursing school are timed, and that limited-English students who have to translate questions into Spanish in their minds, come up with the answers, and then translate answers mentally back to English before answering simply don't have time to complete the tests. There is no doubt that up to 50 highly-qualified and fully prepared students per year could pass the test if they were sufficiently well-versed in English to get through the entire exam. Bilingual nurses are in high demand due to our changing demographics, so it is a win-win situation if we can help these individuals get into the nursing programs.

Action Plan

Regional Workforce Board 2 (RWB2) will:

- Develop and manage the revolving account and market it to individuals, schools, and firms.
- Seek grant funds from other sources (e.g., hospitals and the Robert Wood Johnson Foundation) to increase the size of the fund.

IUSB and Ivy Tech will:

- Assist in marketing the revolving credit account and stipends to students and prospective students.

⁴ <http://www.bw.edu/resources/cashier/trpp/enroll/TRPPtoppage.pdf>

- Facilitate the development of a nursing-oriented course to assist ESL students in passing entrance exam (Ivy Tech)
- Provide an ESL instructor and recruit students into the course (Ivy Tech)

WorkOne will:

- Assist in marketing the revolving credit account and stipends to students and prospective students.

Employers will:

- Assist in marketing and reimburse eligible employees.

Sustainability Measures

Quarterly reports on the SSI initiative will include: 1) status of establishing the account, including the rules and application procedures governing its use; 2) description of marketing efforts during the quarter; 3) number of students applying for access to the account; 4) number of and dollar amount of awards made to applicants and for what areas of study; 5) number and amount of stipends awarded; 6) enrollment in ESL classes; 7) success rate of ESL classes; 8) status of efforts to increase the size of the fund through grants and donations.

Solution 5: Work Ethic and Basic Skills

- Develop **modular training programs** in life skills, math, measurement, computer literacy, and communication skills to prepare workers and job seekers for today's and tomorrow's jobs. These skills have been identified by employers and the 2005 ERISS Study as frequently deficient among applicants and new hires.

Root Cause

Lack of foundation skills needed to be successful. K-12 does not adequately ground all students in the applied skills they need to work now, or ground them to be ready to learn new skills needed for tomorrow's jobs. Some adults, particularly immigrants, did not have the opportunity to learn such skills while they were younger.

Occupation(s)

All targeted occupations.

Anticipated Result: Short and Long Term Contribution to Shortage

All targeted manufacturing occupations, medical assistants, and coders: short term (due to short training time for these programs). Once students are prepared to be successful, they can enter training and have a greater chance of successful completion.

RN and RT: long term (once students are prepared to be successful, they still require a minimum of 2 years beyond that to complete training).

Emerging occupations: long term.

Reduction estimate: about 10% - 20% for any given occupation, depending on individual student deficits and aspirations.

Rationale/Feasibility

Many adults and out-of-school youth do not have the foundation skills they need to be successful in either training or work. A lack of preparedness causes attrition from training programs, turnover in the workplace, and higher error rates and inefficiencies on the job, all of which are costly to the region's competitiveness. Region 2 will fund **modular training programs** (totally 40 hours of training) to allow individuals to remediate their deficiencies and be credited for what they know and can do. The modules will address life/work ethic skills, math, measurement (metrics and volumes, calipers and other devices), computer literacy, and communication (active listening, following directions, giving and receiving feedback). The modules can be provided at WorkOne offices, on-site at companies, or in schools. Individuals who complete (or test out of) each module as needed for their career aspirations will receive a portable certificate. Individuals with foundation skills will be better prepared for additional learning and more likely to be retained on the job. Employers will pay 50% of the cost for eligible and appropriate individuals.

The importance of foundation skills to future success is widely recognized as a feasible and successful solution. For example, the U.S. Chamber of Commerce is the national sponsor for development of the Equipped for the Future (EFF) work readiness

credential. To earn a credential, individuals must be able to successfully demonstrate the following entry-level tasks: Communication skills: speak so others can understand; listen actively; read with understanding; and observe critically; Interpersonal skills: cooperate with others; and resolve conflict and negotiate; Decision-making skills: use math to solve problems and communicate; and solve problems; and Lifelong learning skills: take responsibility for learning; and effectively use information and communications technology. The New York State Regents note: "There is a growing consensus that the EFF work readiness skills ... are essential to youth and adults for success in employment, further education, and adult roles as parents, citizens, and community members. The State Workforce Investment Board has twice affirmed not only that these skills are important, but that the skills identified in the EFF Work Readiness Credential are essential for entry-level work."

Action Plan

RWB2 will:

- Investigate the ☆EFF work readiness credential and other national credentials since they are intended to be portable across states. The number of states and other partners utilizing EFF is growing beyond the original four investor states and the National Institute for Literacy (NIFL). They now include Rhode Island and the District of Columbia. Project advisors and partners include: the National Association of Manufacturing (NAM), the National Governors' Association, the National Retail Federation, Verizon, Center for Workforce Development, Institute for Educational Leadership, and the National Association of Workforce Boards. The AFL-CIO has been a strong proponent of this initiative. In addition to the EFF, there are a number of other assessments and curricula that have been developed to meet work readiness skills. They vary in the range of skills assessed. These include the Comprehensive Adult Student Assessment System (CASAS), the Career Readiness Certificate from the American Council on Testing (ACT) which uses ☆WorkKeys to assess work readiness skills, and the National Occupational Competency Testing Institute (NOCTI) Workplace Readiness Assessment. Work readiness skills have also been incorporated into career and technical education instruction and assessed by national *occupational* certificates, including Automotive Youth Educational Systems (A-YES) and the National Retail Federation's Customer Service and Retail Sales Certificate. Four State Workforce Boards, led by New York, are ready to launch a National Work Readiness Credential that has been long in the making. The use of the assessments and credentials varies considerably across states. Neighboring Michigan's legislature is currently debating whether to use a work readiness assessment in combination with a college entrance test, as a replacement for the current high school achievement test in order to assess college and work readiness of all high school students. If the change is adopted, it would add Michigan to a small but growing group of states that have augmented their own high school tests with measures of work readiness and college preparedness, including the use of voluntary assessments.
- Identify sources of training for the selected existing, enhanced existing, or new credentials. Portability and acceptance will be key to success.
- Market and promote the life skills/work readiness credential.
- Ensure the Regional Operator assists job seekers with life skills/work readiness deficits to access appropriate training modules.

WorkOne and educational institutions will:

- Provide, or provide access to, life skills/work readiness training modules and provide assessment and documentation as pertinent to the selected credential.

Employers will:

- Recognize the life skills/work readiness credential as valid in their screening and selection processes.
- Promote participation in these modules by employees needing this kind of training.

Sustainability Measures

Quarterly SSI reports will include 1) definition of the credential; 2) definition of the mechanism/process for obtaining the credential; 3) marketing efforts to-date; 4) status of training module development; 5) number of individuals enrolled in training modules; 6) number of individuals completing training modules; 7) of those individuals who were unemployed at time of certification, their employment rate; 8) feedback from employers regarding the value of the credential; 9) actual match generated.

Solution 6: Career Awareness

- Mobile 21st Century Skills Lab will be brought to schools, job fairs, WorkOne sites, county fairs, etc. to increase awareness of occupations and expose career aspirants to the actual work. Lab capacity is 10 students per session and would include downlink capability from either the internet or WNIT sideband (just-in-time training system). The mobile lab will also be used

to go to companies for various types of training. VR training in the lab is possible for at least some aspects of training in health care, CNC, welding, possibly painting, and even supervision. Companies who use the lab will be assessed a fee-for-service. Future skills and occupations in emergent industries, such as the geo-spatial industry and biotechnology, can be promoted, along with exposure and/or training for today's occupations.

- Just-in-Time-Training will be provided through purchase of a digital signal splitter to split the WNIT public broadcasting signal into 90 side-brand frequencies that can be used to support Just-in-Time-Training to companies and end-users.

Root Cause

Lack of career awareness.

Occupation(s)

All targeted and emerging occupations.

Anticipated Result: Short and Long Term Contribution to Shortage

All current and emerging occupations: long term. Building awareness is just the first step toward developing a workforce for current and emerging jobs. The impact on shortages cannot be estimated.

Manufacturing occupations: short term. Providing training quickly and at just the time it is needed will, in combination with all other solutions, eliminate the shortages.

Rationale/Feasibility

Obviously, students and adults will never pursue an occupation if they are unaware it exists. Career awareness goes beyond simply knowing the name of an occupation and what it pays. For example, nursing faculty complain that students know what a nurse is, but have a completely unrealistic view of what the work entails (the media have created an incorrect image of the role of the nurse). Other occupations, such as Coders and Painters, may be completely unknown to young people and job seekers. Using a 21st Century Skills Mobile Lab will allow us to take hands-on simulations throughout all corners of the region. Individual schools and one-stops would not be able to fund their own VR simulations, so the van allows the entire region to share the resource.

Feasibility and evidence of success can be found in other regions of the country, e.g., the Volusia Flagler Career Connection Consortium in Florida operates a Career Connection Coach, a mobile career resource center equipped with the latest multimedia technology. The mobile center is very popular not only with students, but teachers and business members. The Coach, along with other aspects of career planning, is proven to be successful in helping the students focus their career interests and plan their courses in high school and beyond to prepare for the job they want. Results of the career planning system include increased attendance rates and decreased dropout rates; increased Applied Technology enrollments and completion; increased student enthusiasm for course work; and increased business involvement. Florida also has an entire ★one-stop on wheels.

Just-in-time Training is being widely used in industry. It means getting exactly the information or skill practice you need, precisely when you need it, usually just before you have to use it for real. "One of the latest buzz words in training circles is 'just in time training'. The idea behind this comes from recent research that shows the 70% of information learnt on training courses is forgotten by the time it the student needs it. The concept of 'just in time training' has evolved with distance learning courses provided over the Internet. The idea is that you do not take the training course until you need the information. With interactive training courses being available 24 hours a day via CD-ROM or the Internet this concept has already become a reality. The implication for industry should have a major impact on the way we work in the future. Many companies are finding that they can no longer rely on having a wealth of experience employees with specific knowledge of particular technologies."⁵

Action Plan

With SSI funds, RWB2 will:

- Purchase the mobile unit and all equipment and licenses
-

⁵ <http://www.engineeringweb.co.uk/D10.shtml>

- Coordinate lab staffing, which will be supported by RWB2, WorkOne, Ivy Tech, and IUSB
- Provide vehicle maintenance, tech support, and technology updates
- Purchase digital video signal splitter to facilitate just-in-time training system.
- Provide access to just-in-time training through the 21st Century Mobile Skills Lab or through distance learning via television sideband frequencies or fiber optic delivery systems. Several communities in the region are developing fiber optic capacity, which will not only speed access of distant learners to education and training and help current firms conduct business at a 21st century pace, but will also attract emerging and relocating businesses that require and utilize cutting edge data-transmission technology.
- Advocate school/industry internships and in-school programs to enhance awareness of manufacturing and occupations.

Schools will:

- Provide electrical power to the unit while it is on site.
- Arrange student schedules to enable time to be spent in the unit.
- Assist in marketing/promoting the lab
- Assist in staffing the lab.
- Facilitate in-school visits by manufacturing representatives to raise awareness of their activities.

WorkOne will:

- Assist in staffing the lab and finding new uses for it, such as a mobile WorkOne center.

Employers(manufacturing and hospitals) will:

- Pay a fee to bring the mobile van on-site for workforce training.
- Pay a subscription fee to access just in time training services.

Sustainability Measures

Quarterly SSI reports will include 1) update on acquisition of mobile unit and equipment, etc.; 2) status of driver/staffing assignment; 3) number and location of site visits made by mobile unit; 4) number of users; 5) source and amount of matching funds; 6) status of efforts to secure future funding through grants. It is anticipated that the mobile unit will be self-supporting by year 3 through fees, employer donations, and additional grants; 7) the number of enrollments in just-in-time training; 8) types of just-in-time training provided; and 9) fees paid.

Solution 7: 21st Century Skills Sets

- Host a series of **Focus on the Future Forums**
- Develop an introductory **21st Century Technology seminar**, including overviews of nano, biochemical and geospatial technologies and related occupations and conduct a minimum of four seminars in two years.
- Encourage participants in the above to enroll in a certification or degreed programs such as Manufacturing Engineering Technology (provided by our local Purdue University). Bachelors Degrees are available in future technologies as well.

Root Cause

Reliance on traditional practices, approaches, and technologies.

Occupation(s)

All targeted and emerging manufacturing occupations.

Anticipated Result: Short and Long Term Contribution to Shortage

Long term: expected to reduce potential shortages in emerging and other occupations in the future. Any subsequent shortages are more likely to be firm-specific and temporary as market forces attract and retain the highest talent. The degree to which the solution will impact shortages cannot be estimated.

Rationale/Feasibility

The **Focus on the Future Forums** will raise awareness in the community of the direction that work and the economy are moving, generating public and private investments in Region 2's future. The public forums will address key industry clusters in the region and sustainability in to the first 50 years of the 21st century. Local and national leaders in industry, economic

development, and education will engage the public in plans to guide future growth of nano, biochemical and geospatial technologies and related occupations.

If process innovations are implemented, employees will need to be trained for working within those processes and emerging occupations. While Solution 1 (Process Innovations) was “top down,” i.e., developing innovative approaches in the workplace by starting with the CEO, this complementary solution is “bottom up,” preparing workers to be successful in innovative environments. Employees must understand the processes and their role in helping the company be competitive and increase profits. The **21st Century Technology Seminars** will explore emerging nano, biochemical and geospatial technologies to provide a background for region’s emerging and incumbent workforce. The seminars will include hands-on activities as well as theoretical concepts. The MET degree and related certification will prepare workers at different levels for adapting to and working within current and emerging high performance industries.

Of significance for EGR2 is the potential for applying entrepreneurial innovation to emergent industries in the fields of ★ **nanotechnology and biotechnology**, and for developing a workforce capable of working within those technologies. It was noted in the EGR2 Strategic Skills Initiative Phase 1 report that our region stands at a crossroads, at which a strategy for becoming involved in emergent industries and emergent occupations must be developed in order to determine the direction of the regional economy. Our research suggests that an eventual decline in the vitality of the region’s manufacturing sectors is very likely, unless such a strategy is created and implemented. The partnerships with regional Chambers of Commerce, governmental entities, industries, and health care facilities that have been forged since the commencement of the Strategic Skills Initiative will help to facilitate such a far-reaching strategy.

Action Plan

The Northern Indiana Workforce Investment Board, with support from the new RWB2, will:

- Organize and execute the Focus on the Future Forums.
- Develop and provide 21st Century Technology Seminars

Sustainability Measures

Quarterly SSI Reports will include: 1) agenda, attendance, and participant feedback from the Focus on the Future Forum; 2) agenda, attendance, and participant feedback from 21st Century Technology seminars; 3) number of students enrolled in and completing degree and certificate programs and their resulting employment and wage gains.

Timeline

Solution	Tasks	Timeframe
Process Innovation	Facilitate referral network to identify firms for Executive Briefings	No less than quarterly beginning in Month 1
	Conduct Executive Team Briefing Breakfasts	20 per year starting Month 2
	Develop Application Guidelines for seed money for innovations	Month 1
Virtual Reality Skill Bldg	Release RFP for purchase of mannequins	Month 1
	Incorporate use of mannequins into curricula	Fall Semester '06
	Initiate procurement of VR equipment and software	Month 1
	Incorporate VR equipment and software into training	Fall Semester '06
	Convene advisory committee for painters to develop VR specs	Months 1-3
	Release painter VR RFP	Month 4
	Development of VR for painters	Months 5-12
Academic Programming	Fill MSN Faculty Position (fall semester '06)	Fall Semester '06
	Offer new respiratory therapy program at Ivy Tech (fall '06)	Fall Semester '06
	Offer Supervisor I & II training	Months 1-12

Educational Assistance	Develop, manage, and market educational account	Months 1-12
	Seek grant funds from other sources to increase the fund	Months 1-12
	Offer healthcare ESL (beginning fall semester '06)	Fall Semester '06
Work Ethic & Basic Skills	Define/select credential	Month 5
	Develop training modules	Months 6-9
	Award certificates	Months 10-12
Career Awareness	Develop mobile unit specifications	Months 1-2
	Initiate procurement	Month 4
	Mobile unit custom built and equipped by vendor	Months 5-10
	Develop guidelines for use of mobile unit	Months 8-10
	Mobile unit operational	Months 11-12
	Purchase Digital Splitter	Month 1
	Offer Just-in-Time-Training Access	Months 1-12
21st Century Skills	Host regional Focus on the Future Forum series	Months 1-12
	Host seminars in molecular technologies (repeated 2 nd year)	Months 4, 8
	Encourage participants in forums and seminars to enroll in certification or degree programs such as MET	Months 4, 8
Project Management	Develop sustainability measures tracking process	Month 1
	Submit quarterly reports on measures	Months 4, 7, 10

Response from Outside Agencies

The response from outside agencies to the proposed solutions is described in the action plan above and confirmed in the letters of endorsement contained in a later section of this report.

Their letters of endorsement confirm 1) how they plan to be involved; 2) that they believe the solution is feasible; 3) the timelines are feasible; 4) they are capable of providing the estimated match; and 5) they agree with the estimated contribution (impact) of each solution on the shortages.

Regional Coalition and Industry Partner Engagement

There was full engagement from industry representatives in the targeted industries and education partners through the regional manufacturing summit and regional healthcare summit in development of solutions. The regional solutions report was presented to the full SSI Consortium on February 7, 2006. The coalition members represent every county in EGR2 and include representatives of the targeted industries. Development of the solutions was conducted on a regional basis, and was not the result of separate self-interests of the WIBs and/or their component jurisdictions. A member of the North Central Indiana WIB and other Fulton County representatives sit on the EGR2 Consortium to ensure the project is truly regional, not just in the interests of the Northern Indiana WIB. Participants in the summits and endorsements from industry and education are contained in the appendices.

Timeline

Quarter	1			2			3			4		
Month	1	2	3	4	5	6	7	8	9	10	11	12
Activity												
Process Innovation												
Facilitate referral network to identify firms for Executive Briefings												
Conduct Executive Team Briefing Breakfasts												
Develop Application Guidelines for seed money for innovations												
Virtual Reality (VR) Skill Building												
Release RFP for purchase of mannequins												
Incorporate use of mannequins into curricula (fall semester '06)												
Initiate procurement of VR equipment and software												
Incorporate VR equipment and software into training												
Convene advisory committee for painters to develop VR specs												
Release painter VR RFP												
Development of VR for painters												
Academic Programming and Skill Building/Training												
Fill MSN Faculty Position (fall semester '06)												
Offer new respiratory therapy program at Ivy Tech (fall '06)												
Offer Supervisor I & II training												
Educational Assistance												
Develop, manage, and market educational account												

	Quarter	1			2			3			4		
		1	2	3	4	5	6	7	8	9	10	11	12
Activity													
Seek grant funds from other sources to increase the fund													
Offer healthcare ESL (beginning fall semester '06)													
Work Ethic and Basic Skills													
Define/select credential													
Develop training modules													
Award certificates													
Career Awareness													
Develop mobile unit specifications													
Initiate procurement													
Mobile unit custom built and equipped by vendor													
Develop guidelines for use of mobile unit													
Mobile unit operational													
Purchase Digital Splitter													
Offer Just-in-Time-Training Access													
21st Century Skills Sets													
Host regional Focus on the Future Forum series													
Host seminars in molecular technologies (repeated 2 nd year)													
Encourage participants in forums and seminars to enroll in certification or degreed programs such as MET													
Project Management													
Develop sustainability measures tracking process													
Submit quarterly reports on measures													

Summary, Categorization, and Prioritization of Solutions

The following is a summary of the solutions noted above, according to their particular stage in the Circle of Solutions (pg. 4):

Stage	Solution
Process Innovation	1a. Executive Team Briefings 1b. Innovation Implementation
Virtual Reality skill building	2a. CNC Training; Welder Training; Durable Goods Painting 2b. Health Care Mannequins
Academic Programming & Skill Building/Training	3a. MSN faculty position funding 3b. Respiratory Therapy program funding 3c. Supervision Training matching grants 3d. Advanced Manufacturing short-term matching grants: CNC skill upgrade training; Welder training; Painting training development project 3e. Information Technology Training matching grants
Educational Assistance	4a. Revolving Education/Training Account 4b. Training Stipends 4c. ESL health-care course assistance
Work Ethic and Basic Skills	5a. Modular Programs in basic skills/work ethics
Career Awareness	6a. 21 st Century Mobile Skills Laboratory 6b. Just-in-time Training System
21 st Century Skills Set	7a. Focus on the Future Forum series 7b. 21 st Century Technology Seminars

Categorization

In order to develop a set of strategies by which to assess the impact of these solutions on the regional economy, they were grouped according to their types and immediacy of impact:

Quick Wins – Upon implementation, these solutions will have an immediate and measurable impact on the occupations identified in SSI Phase 1 and the Root Causes identified in SSI Phase 2.

Emergent Influences – Although these solutions may be implemented along with the others, their impact will play out over time, as the workforce and regional employers learn about their capabilities and accept their validity. The measurable influence of these solutions will involve more qualitative methods and longer-term assessments. Moreover, these solutions can affect more than just the SSI target occupations by raising the awareness of the community as a whole.

Skill Builders – These solutions will provide an impact that will be only minimally felt in the short term, but will result in long-term economic improvements in both the incomes of the people taking advantage of the programs, and the wealth of the regional economy.

After establishing these categories, the SSI team ranked each solution, within its category, in terms of its immediate importance to the community. That is, **each of the solutions ranked #1 is needed immediately and is the most vital to the economic growth of the region:**

Rank	Quick Win	Emergent Influences	Skill Builders
1	3a Fund MSN faculty	7a/b 21 st Century Awareness	1a/b Process Innovation
2	4c ESL Science Training	2a Virtual Reality training product	3c Supervisor Training
3	2b Mannequins	3e IT Training	4a Revolving Account
4	3b Respiratory Therapist program	6b Just-in-time training system	5a Modular Programs
5		6a Mobile Laboratory	3d Advanced Mfg Training
6			4b Training Stipends

Budget Proposal – Summary

Once program priorities were established, an intensive process of research, questioning, and analysis was undertaken in order to determine a reasonable budget request. The guiding principles behind this process involved the determination of the most effective means of program implementation, the identification of adequate levels of matching funds from suppliers, partner industries and institutions, and program participants, and the identification of effective methods of ensuring long-term sustainability.

The total budget for the solutions phase is \$4,755,545. A total of \$2,499,960 will be requested in state grant funds dedicated to program implementation. Administration and other expenses, plus the fiscal agent fee of five percent of the funding request, total \$692,250. EGR2 anticipates a match from various partners to total \$1,563,335, or 32.8% of the total solutions budget. Complete details of the budget proposal are presented in the pages following the summary.

The following page presents a summary of the proposed two year budget for EGR2 solutions:

Northern Indiana Workforce Investment Board, Inc.
Strategic Skills Initiative - Solutions Phase by Type TWO YEAR TOTAL

Quick Wins				Emerging Technologies				Skill Building			
Solution and Project	Two-Year Grant Cost	Two-Year Match Cost	Two-Year Total Cost	Solution and Project	Two-Year Grant Cost	Two-Year Match Cost	Two-Year Total Cost	Solution and Project	Two-Year Grant Cost	Two-Year Match Cost	Two-Year Total Cost
Academic Programming - MSN Program at Indiana University South Bend	\$100,000	\$139,050	\$239,050	21st Century Skills - Forum on the Future and 21st Century Skills Sets	\$135,000	\$120,000	\$255,000	Process Innovation - Executive Team Briefings and Process Seminar Scholarships	\$110,000	\$270,000	\$380,000
Virtual Reality - Health Care Mannequins to increase clinical rotations	\$120,000	\$42,000	\$162,000	Virtual Reality - Complete development and delivery virtual reality training modules in CNC, Welding and Painting	\$252,000	\$75,000	\$327,000	Academic Programming - Supervision Matching grants and Mentoring/Coaching of Supervision Trainees	\$54,560	\$105,440	\$160,000
Academic Programming - Respiratory Therapy Program at Ivy Tech Northcentral	\$500,000	\$199,650	\$699,650	Academic Programming - Information Technology Scholarships	\$100,000	\$50,000	\$150,000	Educational Assistance - Revolving Education/Training Account	\$50,000	\$50,000	\$100,000
Educational Assistance - ESL Program for Nursing Students	\$22,000	\$15,795	\$37,795	Career Awareness and Delivery Channels - Just in Time Training System	\$200,000	\$50,000	\$250,000	Academic Programming - Advanced Manufacturing Short-Term Training matching grants	\$153,400	\$153,400	\$306,800
				Career Awareness and Delivery Channels - 21st Century Skills Mobile Lab	\$510,000	\$100,000	\$610,000	Work Ethic and Basic Skills - Modular Programs	\$28,000	\$28,000	\$56,000
								Educational Assistance - Training Stipends	\$165,000	\$165,000	\$330,000
TOTAL	\$742,000	\$396,495	\$1,138,495	TOTAL	\$1,197,000	\$395,000	\$1,592,000	TOTAL	\$560,960	\$771,840	\$1,332,800
Summary											
Grant Funds	\$2,499,960										
Matching Funds	\$1,563,335										
Project Mgmt, admin, and State Fiscal Agent Fee (5% for the funded solutions only). \$692,250											
TWO YEAR TOTAL: \$4,755,545											

Potential Funding Sources by Solution

Quick Wins		Emerging Technologies		Skill Building	
Solution and Project Academic Programming - MSN Program at Indiana University South Bend	Potential Funding Sources WIA optional activity #1 (development of exemplary program activities. Block grant #3 (provide match for Carl Perkins)	Solution and Project 21st Century Skills - Forum on the Future and 21st Century Skills Sets	Potential Funding Sources State Skills 2016 #1 (improve mfg productivity) and #3 (create a competitive economy)	Solution and Project Process Innovation - Executive Team Briefings and Process Seminar Scholarships	Potential Funding Sources State Skills 2016, (to improve manufacturing productivity levels in Indiana.)
Virtual Reality - Health Care Mannequins to increase clinical rotations	Block grant #3 (provide match for Carl Perkins); WIA optional activity #1 (exemplary program activities)	Virtual Reality - Complete development and delivery of virtual reality training modules in CNC, Welding and Painting	Block grant #3 (provide match for Carl Perkins); WIA optional activity #1 (exemplary program activities); State Skills 2016 #2 and #4 (training)	Academic Programming - Supervision Matching grants and Mentoring/Coaching of Supervision Trainees	#3 (innovative incumbent worker training programs); State Skills 2016 #2 (to enable firms to become more productive through training)
Academic Programming - Respiratory Therapy Program at Ivy Tech North Central	Block grant #3 (provide match for Carl Perkins)	Academic Programming - Information Technology Scholarships	WIA optional activity #3 (innovative incumbent worker training programs) and State Skills 2016 #5 (skill upgrade);	Educational Assistance - Revolving Education/Training Account	WIA optional activity #1 (development of exemplary program activities); #3 (innovative incumbent worker training programs); State Skills 2016 #2 (to enable firms to become more productive through training) and #4 (encourage increased training due to aging workforce); and Workforce Block Grant #5 (workforce literacy); and #9 (training for workers at risk of becoming dislocated).
Educational Assistance - ESL Program for Nursing Students	WIA optional activity #3 (innovative incumbent worker); Block Grant #1 (OIC - limited English); Block Grant #4 (basic skill capacity bldg); Block Grant #5 (workforce literacy); Block Grant #10 (comprehensive services)	Career Awareness and Delivery Channels - Just in Time Training System	WIA optional activity #3 (innovative incumbent worker training programs) and State Skills 2016, (to improve manufacturing productivity levels in Indiana.)	Academic Programming - Advanced Manufacturing Short-Term Training matching grants	WIA optional activity #3 (innovative incumbent worker training programs) and State Skills 2016, "to improve manufacturing productivity levels in Indiana."
		Career Awareness and Delivery Channels - 21st Century Skills Mobile Lab	WIA Mandatory Activities #5 (additional assistance to local areas that have high concentrations of eligible youth); WIA optional activity #1 (development of exemplary program activities; #7 (carry out youth activities statewide, since the van will be available for hire to other regions); Workforce Block Grant funds #3 (match for Carl Perkins); and #10 (job training and related services for economically disadvantaged individuals).	Work Ethic and Basic Skills - Modular Programs	WIA Optional Activity #1 (development of exemplary program activities); #3 (innovative incumbent worker training); #6 (adult and dislocated worker activities); Workforce Block Grant funds #4 (build capacity and strengthen the quality of services of programs offering Basic Skills); #5 (workforce literacy); and #10 (comprehensive job training and related services).
<i>Economic Growth Region 2 Regional Solutions Report</i>				Page 24 Educational Assistance - Training Stipends	WIA optional activity #3 (innovative incumbent worker training programs)

Budget Detail

Northern Indiana Workforce Investment Board, Inc.

Solutions	Project	Description	Costs	Year One Budget	Year One Match	Year Two Budget	Year Two Match	Total Grant	Total Match	Total Solution
Process Innovation	Executive Team Briefings	Conduct 20 briefings to company executive teams per year.	\$500 per briefing	\$10,000		\$10,000		\$20,000	\$0	\$20,000
	Process Seminar Scholarships	Provide 3 companies per year with a 35% scholarship to implement process solutions at company.	Scholarship up to \$15k per company. Participating companies pay 65% of process solution costs.	\$45,000	\$135,000	\$45,000	\$135,000	\$90,000	\$270,000	\$360,000
TOTAL COST OF PROCESS INNOVATION SOLUTION				\$55,000	\$135,000	\$55,000	\$135,000	\$110,000	\$270,000	\$380,000
Virtual Reality Skill Building	Virtual Reality Development	Complete development and delivery of virtual reality training modules in CNC, Welding and Painting. Will use local companies to beta test delivery, processes and provide feedback to assure final product meets training requirements of industry.	Provide \$150,000 in grant funds to finalize development of virtual reality modules in CNC, welding and painting for end user marketplace. Purchase 3 sets of equipment at \$34,000 per set to support beta development stage with local companies.	\$252,000	\$37,500		\$37,500	\$252,000	\$75,000	\$327,000
	Health Care Mannequins	Purchase a set of virtual reality simulator mannequins to integrate into a clinical rotation to reduce the lack of clinical site bottlenecks for nursing students.	Provide a pool of resources for hospitals and nursing schools to purchase a set of mannequins with SSI funding 65% of the costs up to a maximum of \$120K.	\$60,000	\$21,000	\$60,000	\$21,000	\$120,000	\$42,000	\$162,000
TOTAL COST OF VIRTUAL REALITY SOLUTION				\$312,000	\$58,500	\$60,000	\$58,500	\$372,000	\$117,000	\$489,000

Academic Programming and Skill Building/Training	MSN Program at Indiana University South Bend	Fund start-up cost to support the implementation of a state approved MSN program at Indiana University South Bend.	\$100K to support a faculty member and operational cost. Self-sustainability is partially achieved in year one through student tuition payments. Fully self-sustaining in year two through tuition and FTE reimbursements from the State.	\$100,000	\$66,150		\$72,900	\$100,000	\$139,050	\$239,050
	Respiratory Therapy Program at Ivy Tech Community College	Fund start-up cost to support the implementation of a state approved Respiratory Therapy program needed to address the shortage of Respiratory Therapist in the region including southwestern Michigan.	\$500K to support faculty, medical director requirement, and laboratory expenses. Will be self-sustaining in year three through tuition and FTE reimbursements.	\$375,000	\$72,600	\$125,000	\$127,050	\$500,000	\$199,650	\$699,650
	Supervision Training Scholarships	Fund Supervision Training Scholarships for companies at 50% of cost of training.	10 Supervision programs per year at a program cost of \$6,000 discounted to \$3,456, including materials equals \$34,560 per year. Companies will provide 50% of the cost of the program up to a maximum of 20 students.	\$17,280	\$42,720	\$17,280	\$42,720	\$34,560	\$85,440	\$120,000
		Mentoring/Coaching of Supervision students at 50% of the cost.	\$50 per hour for two hours of mentoring/coaching per student up to a maximum of 200 students. Companies will provide 50% of the cost of the program.	\$10,000	\$10,000	\$10,000	\$10,000	\$20,000	\$20,000	\$40,000
	Advanced Manufacturing Short-Term Training Scholarships	CNC Skill Upgrade Training including 24 hours of blueprint reading, 20 hours of virtual reality e-learning, 20 hours of virtual reality e-lab, 12 hours of real world laboratory training and 4 hours of review.	\$9,440 per course up to a maximum of 20 courses, serving a minimum of 100 students. Companies will provide 50% of the cost of the program.	\$47,200	\$47,200	\$47,200	\$47,200	\$94,400	\$94,400	\$188,800

		Welding Training including MIG, TIG and Stick welding.	\$5,900 per course up to a maximum of 20 courses, serving a minimum of 100 students. Companies will provide 50% of the cost of the program.	\$29,500	\$29,500	\$29,500	\$29,500	\$59,000	\$59,000	\$118,000
	Information Technology Scholarships	Certification programs for network and software administrators.	20 students at \$5,000 course fee over a two year period.	\$50,000		\$50,000		\$100,000	\$50,000	\$150,000
TOTAL COST OF ACADEMIC PROGRAMMING AND SKILL BUILDING/TRAINING				\$628,980	\$268,170	\$278,980	\$329,370	\$907,960	\$647,540	\$1,555,500
EDUCATIONAL ASSISTANCE	Revolving Education/Training Account	Employees at companies that provide education tuition assistance programs often are unable to participate because they must pay the tuition and related fees in advance. The Employer will reimburse the employee after successful completion of the program, which curtails or eliminates participation. The Revolving Education/Training Account would provide a short-term interest free loan to the employee seeking education. Upon completion of the total program, the company would reimburse the Revolving Education/Training Account for loan.	Provide up to a maximum of \$2,500 in a Revolving Education/Training Interest Free loan up to 50 students who are employed at health care providers who have an education tuition assistance program. Students must seek education in the RN occupational sectors.	\$25,000	\$25,000	\$25,000	\$25,000	\$50,000	\$50,000	\$100,000

	Training Stipends	Many individuals are interested in upgrading skills to an academic degree, but can't afford to pursue education due to lack of financial assistance for living expenses. Stipend would provide some support for students to seek education and cover living expenses for class time. Research has identified a range of stipend cost from \$2,800 to \$6,700 per individual. Education Stipend Allowance will provide up to \$3,300 per student up to a maximum of 100 students.	100 students at \$3300 per student in training stipend allowances, with 50% of the cost provided by the employer. Will be targeted to health care occupations only.	\$82,500	\$82,500	\$82,500	\$82,500	\$165,000	\$165,000	\$330,000
	English as a Second Language Program	Spanish-speaking nursing students have a hard time passing the Nursing Boards due to the time constraints and their need to translate, mentally, the questions from English to Spanish and back to English. This program will help Spanish-speaking nursing students to think in English.	Development cost of \$1,500, instructor fees for 6 courses at \$6,000, and materials at \$3,500 per year. Will be self-sustaining after two years.	\$11,000	\$7,898	\$11,000	\$7,898	\$22,000	\$15,795	\$37,795
TOTAL COST EDUCATIONAL ASSISTANCE				\$118,500	\$115,398	\$118,500	\$115,398	\$237,000	\$230,795	\$467,795
WORK ETHIC AND BASIC SKILLS	Modular Programs	Modular programs that address issues such as life, math, measurement, computer, communication and related basic skills totaling 40 hours of training.	14 groups of 15 students 40 hours per group at \$100 per hour. Employer pays 50% of the cost.	\$14,000	\$14,000	\$14,000	\$14,000	\$28,000	\$28,000	\$56,000
TOTAL COST OF WORK ETHIC AND BASIC SKILLS				\$14,000	\$14,000	\$14,000	\$14,000	\$28,000	\$28,000	\$56,000

CAREER AWARENESS AND DELIVERY CHANNELS	21st Century Skills Mobile Lab	Recreational vehicle with a computer server, 10 computer stations networked, satellite access, and software.	Fully equipped mobile RV lab costing \$325,000.	\$325,000					\$325,000	\$0	\$325,000
		Maintenance, Travel Expense and Driver/Technical Support	Maintenance, Travel and Driver/Technical Support expenses with matching funds supported by employers leasing the lab for career awareness activities.	\$55,000	\$50,000	\$55,000	\$50,000	\$110,000	\$100,000		\$210,000
		Technology Equipment including virtual training tools.	Technology equipment to support virtual reality.	\$75,000				\$75,000	\$0		\$75,000
	Just in Time Training System	Purchase digital signal splitter to split the WNIT public broadcasting signal into 90 side-brand frequencies that can be used to support Just-in-Time Training activities for companies and end-users. Matching funds would come from fees charged on a subscription basis to access training services.	Purchase technology.	\$200,000			\$50,000	\$200,000	\$50,000		\$250,000
TOTAL CAREER AWARENESS AND DELIVERY CHANNELS				\$655,000	\$50,000	\$55,000	\$100,000	\$710,000	\$150,000		\$860,000
21st CENTURY SKILL SETS	Forums on the Future	Series of public forums to address key industry clusters in Northern Indiana and sustainability into the first 50 years of the 21st Century. Will include local and national industry leaders, state and local governmental officials, educators, economic and workforce development officials. Outcome will be the establishment of development plans to guide future growth within the region for these specific industry clusters. Matching funds from partnerships with business, labor, education, government and community organizations.	\$50,000 to develop and implement Forums on the Future of Life Sciences, Advanced Manufacturing, Logistics and related industries. Will also seek two corporate sponsors in year one and five corporate sponsors in year two to support the development and implementation process.	\$50,000	\$20,000	\$25,000	\$50,000	\$75,000		\$70,000	\$145,000

21st Century Technology Seminars	Content development and implementation of a survey seminar that explores emerging technologies in nano, geo-spatial, bio-chem and molecular science and provides a background for the region's emerging and incumbent workforce. Includes hands-on activities as well as theoretical concepts.	\$60,000 to develop and promote the seminar in the region. Will also seek 5 corporate sponsorships at \$5,000 each per year as matching resources. Will conduct a minimum of four seminars over the two year period.	\$30,000	\$25,000	\$30,000	\$25,000	\$60,000	\$50,000	\$110,000
TOTAL FUTURE SKILL SETS			\$80,000	\$45,000	\$55,000	\$75,000	\$135,000	\$120,000	\$255,000
TOTAL SOLUTIONS									
SSI Admin and Staffing Oversight	Personnel		\$1,863,480	\$686,068	\$636,480	\$827,268	\$2,499,960	\$1,563,335	\$4,063,295
	Travel		\$174,653		\$179,599		\$354,252	\$0	\$354,252
	Consultants		\$6,500		\$6,500		\$13,000	\$0	\$13,000
	Other		\$10,000		\$10,000		\$20,000	\$0	\$20,000
	State Fiscal Agent Fee at 5% for the funded solutions only		\$90,000		\$90,000		\$180,000	\$0	\$180,000
			\$93,174		\$31,824		\$124,998		\$124,998
TOTAL SSI Admin and Staffing Oversight			\$374,327		\$317,923		\$692,250	\$0	\$692,250
SOLUTIONS PHASE GRAND TOTAL			\$2,237,807	\$686,068	\$954,403	\$827,268	\$3,192,210	\$1,563,335	\$4,755,545

Additional Commentary

The page limit for the Executive Summary limited the information that could be provided about each solution. Additional commentary is provided here to elaborate on the solution and/or to demonstrate further evidence of feasibility and the potential for success.

Solution 1: Process Innovation

☆ Lean Techniques and Principles

The term "lean production" was coined by James Womack in the book *The Machine That Changed The World*, to contrast the Toyota production system with traditional mass production. Lean production is about doing more with less. It is a way to assure that customers get what they want, when they want it, with minimum waste. The principles of lean include:

- Workplace organization
- 5S
- Standardized work
- Waste identification and elimination (seven elements of waste - ☆)
- Value-stream mapping
- Team-based, multi-skilled workforce
- Kaizen events (one week)
- Jidoka (Error proofing)
- Just-in-time
- Cellular manufacturing
- One piece flow (takt time)
- Set-up time reduction (SMED)
- Pull system (kanbans)
- Production smoothing
- Balanced work flow
- Inventory Reduction
- Visual Management
- Total Productive Maintenance (TPM)

☆ The Seven Kinds of Waste

"Waste comes carefully disguised as useful work."⁶

The Toyota Production System (TPS) is the framework and philosophy organizing the manufacturing facilities at Toyota and the interaction of these facilities with the suppliers and customers. It was largely created by three men: the founder of Toyota, his son Kiichiro Toyoda, and engineer Taiichi Ohno. The main goal of the TPS is to eliminate waste. There are 7 kinds of waste targeted in the TPS:

⁶ <http://www.pinp.org/files/skinner.pdf>

1. Defects
2. Overproduction
3. Transportation
4. Waiting
5. Inventory
6. Motion
7. Overprocessing

The key to the Toyota strategy is to develop strategies to reduce or eliminate these types of waste.

☆ The Five S's Uncovered

By David Straker

One of the most copied systems to come out of Japan is known as 'The 5 Ss'. At first, it can easily seem like a rather simple system. After all it is just about being tidy and stuff. So why has it spread so far? Why have so many companies implemented it?

What can easily be missed is that the simplicity of the 5 Ss is actually a key strength. Too many companies seek complex systems, possibly to justify the consultant's fee and possibly to excuse their past negligence. The price of complexity can easily be failure as people struggle not only with the change but also making sense of the new approaches. A critical value of simple systems is that they are relatively easy to understand and implement. Of course, the change management aspects of any new approach can be complex and difficult, and implementing the 5 Ss can have its difficulties, but this is at least minimised by the basic simplicity of the system.

The 5 Ss are described briefly:

Name	Interpretation	Description
Seiri	organisation	Separate out all the things that are not necessary and eliminate them or tidy them away.
Seiton	neatness	Arrange the essential things in order so that they can be quickly and easily accessed and put away.
Seiso	cleaning	Keep machines and working environment clean.
Seiketsu	standardisation	Make cleaning and checking a routine practice; maintain a pleasant environment.
Shitsuke	discipline	Standardise the previous four steps and constantly improve them.

A number of authors have found s-words for the five Japanese words. You can use these if you like, and especially if the Japanese S-words sound too 'technical' for your workforce, although beware of confusion (note how Seiketsu and Shitsuke both get called 'standardise'). These are:

Seiri = sort, structurise, sort out
Seiton = straighten, systematise, systematic arrangement
Seiso = scrub, sanitise, spic and span
Seiketsu = systematise, standardise
Shitsuke = standardise, self-discipline

The 5 Ss are about doing the basics. They provide a foundation on which to build other quality activities. With a tidy, disciplined environment, you can see many of the things which need further attention. Companies that live in chaos, no matter how fashionable it is these days, spend a lot of time in unproductive activities. This is not to say that chaos does not have its place—in creative situations where you want to think out of the box, chaos can be a welcome friend. But the truth of most companies is that a very large proportion of activities could benefit from more control rather than more chaos.

Implementing the 5 Ss requires full cooperation of all involved. This in itself is an amazingly powerful activity. When people realise that these simple activities have such power, and that by implementing them well, the workplace becomes a more pleasant place, the principles will get more enthusiastically embraced.

Although the 5 Ss originated in the manufacturing environment, they translate perfectly well to other work situations, from R&D laboratories to the Managing Director's office. They are every bit as useful for manager as they are for the shop-floor workers. Even at home, life can be made easier and less frustrating, giving the time and space to do all of the other things you wanted to do.

Let's leave the last word to Hiroyuki Hirano, author of 5S: Five Pillars of the Visual Workplace:

"A company that cannot successfully implement the 5 Ss cannot expect to effectively integrate JIT, re-engineering, or any other large-scale change. Good workplaces develop beginning with the 5S's. Bad workplaces fall apart beginning with the 5 Ss."

Source: http://www.saferpak.com/fives_art1.htm

★ Seed Funds

Some workforce boards have established their own seed funds for workforce development. One example is the Workforce Investment Fund in West Central Texas:

The Workforce Investment Fund assists small and medium businesses by providing financial assistance for customized training, upgrading skills of current employees, developing new training programs, creating new high-skill or high-wage jobs or retraining employees for new or emerging occupations.

The Workforce Investment Fund was created by the West Central Texas Workforce Development Board to provide financial assistance to small and medium-sized businesses located in the 19-county West Central Texas region. The 19 counties include: Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Kent, Knox, Mitchell, Nolan, Runnels, Scurry, Shackelford, Stephens, Stonewall, Throckmorton and Taylor. Grants of up to \$50,000 are awarded through a competitive application process.

Funds may be used to provide customized training for new or current employees, upgrading the skills of current workers, developing new training programs for a consortium of businesses, training new workers for high-skill/high-wage jobs in demand occupations, retraining workers for new or emerging occupations that are in demand in the region or creating new training programs that prepare youth for direct entry into the

high-skill/high-demand or high-wage occupations in the region upon completion of secondary and/or post-secondary education.

Primary applicants include small and medium businesses, chambers of commerce, economic development districts/entities or labor organizations are eligible applicants. School districts, community and technical colleges, training institutions and universities may only apply in partnership with a primary applicant.

An application must be completed and submitted electronically to the Workforce Investment Fund Review Panel. Applications are accepted at any time; however, funding awards will be made four times annually.

Businesses must provide a **cash** match equal to at least 25% of the total cost. Fund recipients must enter into a cost-reimbursement contract with the West Central Texas Workforce Development Board, provide periodic progress reports and billings and submit a final report.

Source: www.workforcesystems.org

☆ Executive Breakfasts

The Executive Breakfasts will emulate the success of similar executive breakfasts on the research results of the FORTUNE study conducted by the Hay Group.

Hay Group surveyed executives at 160 companies in the fourth quarter of 2004. The research identified two groups: innovation leaders and peer group companies. Innovation leaders were the two companies in each industry that had the highest score for innovation. All the other companies in the study were included in the peer group.

Hay Group identified more than 10 factors of the world's leading innovative companies, including: vision, tone, talented employees, disciplined managers, a nurturing environment, patience, a tolerance for failure, investment in research and development, as well as the right structures, processes, and systems for innovation to flourish.

"Innovative companies are distinguished from their peers by having the right people in the right environment with the right leadership," said Stark. "Innovation is not spontaneous--these companies plan for and manage their organizations to be innovative."

Respondents from the innovation leaders report that managers are given the decision-making latitude they need (91 percent, versus 82 percent of peer companies) and that their companies are patient with ideas that don't generate immediate results (75 percent, versus 62 percent of peer companies). Innovation leaders also report that they invest greater resources in research and development than their competitors (65 percent, versus 44 percent of peer companies).

According to the study, executives at the innovative companies surround themselves with people who are not afraid to challenge them on their thinking. "Innovation starts at the top with the CEO and senior executives setting the tone and vision for the company," added Stark.

The study found a number of common characteristics of the employees at the most innovative companies. They were high achievers, intellectually curious, and risk takers. They also evidenced a high tolerance for ambiguity in their jobs and a high level of empathy and sensitivity to others.

Hay Group's research showed that innovative companies are patient with ideas that don't generate immediate returns and don't withdraw funding or support too quickly. However, these same companies are not afraid to admit mistakes and cut their losses on ideas that fail.

"You can generate innovation within a company if you are willing to create the organizational conditions that allow it to flourish," said Stark. "It starts with screening for the right people that will fit into the corporate culture, hiring and retaining them, and developing systems to manage them."

Hay Group partners with FORTUNE magazine annually to identify and rank the World's and America's Most Admired Companies and uncover the business practices that make these companies both highly regarded and successful. Past research studies have focused on a wide range of topics including attraction and retention of talent, leadership development, performance measurement, corporate culture, strategy implementation, execution, and responses to economic uncertainty.

To identify and rank the America's Most Admired, Hay Group asked the top managers at 582 companies (the largest by revenues in each of 65 sectors) to judge their competition. In all, 10,000 executives, directors, and securities analysts rated the companies in their industries on eight attributes: innovation, employee talent, financial soundness, quality of management, use of corporate assets, social responsibility, long-term investment, and quality of products/services. The World's Most Admired were measured on the same eight attributes plus effectiveness in doing business globally.

Source: www.haygroup.com/fortune

Solution 2: Virtual Reality

☆ Mannequins

Nursing for dummies

Lifelike mannequins help students sharpen their patient care skills

By José Alaniz

October 30, 2000



Photo: Medical Plastics Laboratory Inc.

High-tech mannequins manufactured by Medical Plastics Laboratory Inc. accurately simulate the human body and give students the opportunity to practice procedures. Students can insert IV lines, perform intubations, tracheotomies and the Heimlich maneuver, treat wounds, detect arrhythmic heartbeats, and listen to bowel sounds using MPL models.

Work as a nurse long enough, and you're bound to hear it from somebody, if you haven't lived through it yourself: the "sticking an orange" story. "I was in nursing school 10 years ago, and we didn't really have anything to regularly practice injections on," Susan Snoddy, LVN, said. "So we'd stick an orange. Obviously, it wasn't very realistic, and when it came time to stick a needle into a real patient, I was really nervous. My instructor had to guide my hand into the patient's arm."

To sum up: Orange – bad substitute for patient. Patient – too real for first-timer mistakes. Between these two extremes lies the high-tech mannequin – the ultimate teaching tool. This is what Snoddy, an account executive with Gatesville, Texas-based Medical Plastics Laboratory Inc. (MPL), a leading mannequin manufacturer, communicates in her sales pitches to nursing schools, paramedics and others involved in teaching medical care to students – who, after all, shouldn't be resorting to fruit or their imaginations to learn vital skills.

"I was scared to death when I had to insert a nasal gastric tube into an MS patient for the first time," Snoddy said. "But today, nurses I meet love the mannequins because you can train over and over and learn the feel of the skill. You get the best-trained nurses that way, because you can be book smart and pass the exams, but you still need that hands-on training."

The 50-year-old MPL's product line has no shortage of models to practice on. You can insert IV lines; perform intubations, tracheotomies and the Heimlich maneuver; treat wounds; detect arrhythmic heartbeats; even listen to bowel sounds. The Skele-Torso simulates a human body – down to the ligaments and organs held together with Velcro – more accurately than any other model in history.

Next year, MPL will release a Universal Patient Simulator, a software-driven, programmable mannequin that can duplicate different medical situations, all pulses and physiological data, and log every procedure done – and not done – on it during a training session.

MPL mannequins, modeled from molds of human cadavers, even have fingerprints. Not since Pygmalion have humans come this close to reproducing the human body in all its complexity.

Founded in 1949 by two doctors and a dentist frustrated by the lack of realistic models, MPL has grown to become the second-largest employer in Gatesville, a town of 12,000 residents near Waco. The company, along with a handful of other firms in Denmark, the United States and Germany, now vies for the \$100 million to \$150 million market in medical mannequins.

To win customers in this game, MPL sales reps said, you need three things: realism, realism, realism. "The No.1 compliment we get from nurses is that it's the most realistic product on the market," said Rosie Patterson, vice president for sales and marketing.

"These days the mannequins compare very favorably with human beings," said Dorothy Collins, MSN, RN, department chair of the Vocational Nursing School at Houston Community College.

"The skin feels like skin. Back in the mid-'60s, when I went to nursing school, you could buy a doll and it would have had the same [external] features as our mannequins. They had no eye-blink reflex, one facial expression, no blood irrigation [ability to receive and expel "blood"], no nasal gastric openings. They were merely hard statues."



With 300 students spread among three laboratories, the school uses about 25 high-tech mannequins for teaching everything from IV skills to reading vital signs. The models also help promote more intangible but crucial interpersonal skills.

"We have to remind the students to be more gentle with them," Collins said. "The mannequins aren't sensitive to touch, so they won't complain if a student yanks on them. But of course a live patient will. So we tell them to keep in mind how to position the patient correctly, keep a straight alignment and be aware of the patient's sensitivity. How gentle you are does make a difference in the real world. It's good to start learning that on mannequins."

Students even introduce themselves to the "patient," and give the mannequins names like Harrison Ford or Denzel Washington, Snoddy said.

The mannequin's marginal status between life and death also makes it well-suited for other tasks, like postmortem care, Collins said.

"That's when a student really understands the mannequin as more or less what it is: a dead body. They correct its body position, remove any medical devices, wash it for hygiene and prepare documentation. A mannequin is perfect for those skills."

Reality, of course, doesn't always come cheap. MPL's prices range from about \$5,500 for a Complete Care Doll, used at many nursing schools, to about \$30,000 for the new computerized patient simulator. Some models of separate body parts go for as low as \$1,000, but are fully upgradeable "as funds come in," Patterson said.

The company has recently followed a more multiracial, multigender trend. For example, this year it released a mannequin with interchangeable genitalia and female breasts.

All this devotion to verisimilitude in teaching tools may bring closer the day when nursing students will stick only one thing into oranges: their teeth.

Source: <http://www.nurseweek.com/news/features/00-10/dummies.asp>

☆ Virtual Reality Training in Manufacturing

Each of the Virtual Reality options fulfills about one-third to one-half of the training necessary CNC, welder, and painter occupations.

For CNC Operator, the VR program offers 20 hours of introductory lectures, accompanied by excellent visuals, including basic geometry for CNC operation. See http://www.ascience.com/AVML_description.htm for more information.

After the lectures, the student will be guided through the process of making a part on the mill, and after that, do the process him or herself. The codes can be entered via keyboard or even touch screen. The virtual trainer will respond to verbal commands (voice recognition is built into the program), and a student can move through the environment, including the machine, using a mouse or joystick. As the student manually prepares the block and programs the controller, the trainer will stop him/her and correct mistakes. We have asked the programmers to also create visuals showing mistakes that could be made, with machine

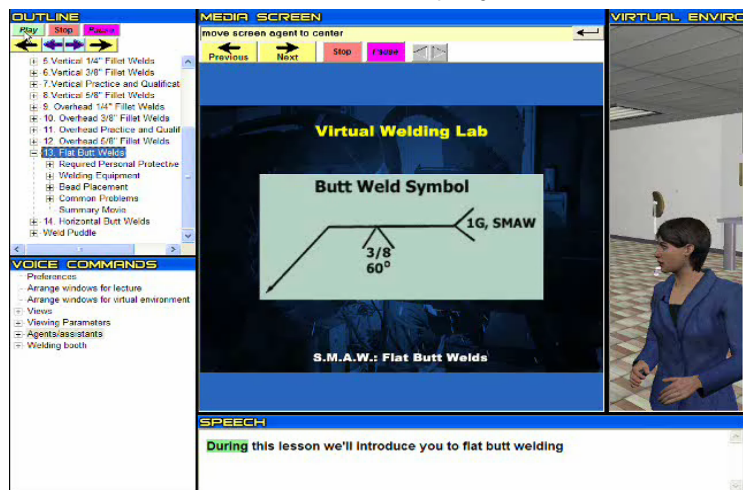
crashes, blocks popping out of their vises, turrets hitting tools and the vertical stage crashing into the platform, and so forth.

After actually doing a project, the student is tested (as they all are throughout the program). At that point, they may be best served by traveling to one of Ivy Tech's CNC labs, currently located in South Bend and Elkhart, and doing a project under supervision of traditional instructor. Upon successful completion of that phase, the student can then elect to take courses in blueprint reading, measuring, and so on, from any Ivy Tech campus. The outcome of the process will be a fully-trained operator, but at considerably less cost.

Other VR options for CNC are basically testing programs to allow the student to see the behavior of the mill or lathe once they have input the commands. Or, they are simply programs to help learn the commands and their translations into movements.

For Welders, VR is not as well-developed, and it will probably take considerably more time for a full program to be implemented. There are two options: one is to purchase an existing system from France, and the other is to provide R&D funding to an Indiana-based firm (the same company as the one above that has the CNC program) that has made

substantial progress in creating a welding VR application. See http://www.ascience.com/VWL_descripti on.htm for more information. The lecture part is already developed. Scroll down to the "click to play" for a sample of VR capabilities. Below that, you'll see the tool they're working on; the student will have a real tool exactly like the picture in his/her hand, and will be moving along the three axes noted. Instant feedback will indicate speed of weld, angle of tip, and amount of weld material deposited.



Our feedback from a field exercise with another system – having a welder take tool in hand and put on the headset – indicates the virtual system is *very* similar to real experience in feel, pressure, and movement.

With this system the student will get lectures, then VR training, and after that, as with CNC, he or she will go into an Ivy Tech welding lab to feel just how hot it gets, and will practice until the instructor says they are ready. Under an agreement with the company (Advanced Science), in exchange for the R&D funding, RWB2 would become a beta site for the welding program in the Mobile 21st Century Skills lab. Both the CNC and welding programs are internet-based e-learning systems that are fully interactive and allow the user to issue voice commands to change the dimensions of the work piece, repeat a process, and so forth. The programs could be accessed via the internet or downlink to the mobile lab. When a company or WorkOne indicates there is a need, the lab could travel to the company and begin the training. Alternatively, we could contract with the company or provider, and upon payment of the fee, issue an ID and password good for one year. The student would then study at his/her own pace. Both programs include testing and a



series of training modalities: the student could choose to be shown the process, guided through the process, monitored through the process, or tested as he/she performs the process.

The existing system in France is described at: http://wave.c-s.fr/moduleeeleve_en.php; and <http://www.isense.com/apps/industrial.htm>. This particular system is not yet available in the U.S., but an American company built the miniature motion sensors for it. They're willing to facilitate our acquiring this system and we're negotiating with them to become the American distributor. The European Union has done a lot of testing with this, and there are a significant number of companies who have been beta sites and have documentation available about successful results. The system is expensive at \$35,000 each, and we would have to visit France to make sure it is actually what we want. Whereas the Indiana welding VR system has the lectures, allowing for self-paced and long-distance study because it is online (but no tool yet), this system has a tool and very good feedback, but no lectures, so an instructor will be needed up front, and then again at the back end for testing and certification.

For Painter, there are two VR systems already commercially available, but only one is available to the general public (the military is using the other). It may be found at:

<http://www.polhemus.com/PineTechnical%20College%20CS.htm>.

The lab's director came to EGR 2 for a demonstration, bringing a headset and all the VR apparatus, but not the rear-projection screen noted in the on-line article. Our industry partners in the field were invited to review it (we had painters from five different recreational vehicle firms in the same room at one of the companies, at the same time – an extremely rare accomplishment - testing this equipment.) They did not like it, saying the headset was too limiting and the experience too different from their booth procedures. The lab director will be returning with a rear-projection screen to give them a better feel for painting flat surfaces such as their motor home panels. However, the feeling at this point in time is that the region would need to issue an RFP to VR developers to custom create a system that would meet our employers' needs.



☆ Student/Teacher Ratio

The problem with capacity for clinicals is a combination of sites plus faculty. In Indiana, there can be no more than 10 clinical students for each faculty member. Ratio requirements vary around the country:

Faculty to Student Clinical Ratios in Registered Nurse Education Programs	
1:12 Faculty : Student Ratio	Florida, Washington
1:10 Faculty : Student Ratio	Alaska, Arizona, Arkansas, Connecticut, Georgia, Guam, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Michigan, Mississippi, Montana, New Jersey, North Carolina, Texas, Virginia
1:9 Faculty : Student Ratio	Oregon
1:8 Faculty : Student Ratio	Alabama, Delaware, Iowa, Maine, Nevada, New Hampshire, New Mexico, North Dakota, Northern Mariana Islands, South Carolina, South Dakota, Virgin Islands, W. Virginia, Wyoming
Other Approaches	<u>California</u> : Ratio is based on acuity of patient needs, objectives

	<p>of learning experience, class level of students, teach methods.</p> <p><u>Hawaii, Maryland, Minnesota, Missouri, Nebraska, New York, Ohio, Oklahoma, Rhode Island, Utah, Vermont, Wisconsin:</u> State boards of nursing do not oversee clinical ratios.</p> <p><u>Pennsylvania:</u> "Ratio of students to faculty shall assure optimal learning opportunities in clinical laboratory sessions and shall be consistent with the objectives of the clinical nursing courses."</p> <p><u>Tennessee:</u> Clinical ratio must support the standards for quality teaching and patient safety.</p>
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In Indiana, a solution is to increase the number of sites, obtained through negotiations with hospitals, and to add supervising faculty. There are two possibilities:

- ◆ MSN students holding BSN can teach if they have 5-year plan. They can teach clinicals under supervision.
- ◆ Hospital staff, e.g., nurse practitioners, could be site preceptors, under supervision.

Solution 3: Academic Programming and Skill Building/Training

☆ Supervisor Training

Supervisory training modules have already been developed by the IUSB Continuing Education Department.

A basic Supervision I curriculum has been designed in six modules of two-and-one-half hours each. Topics of these modules include: Roles & Responsibilities, Communication Basics, Motivation & Morale, Conflict Resolution, Legal Overview for Supervisors, and Discipline and Defensible Documentation. This may be followed by Supervision II that includes six additional modules: Assertive Supervision, Coaching, Preventing Harassment in a Diverse Workplace, "Right Hiring", Taking the Fear Out of Performance Appraisals and Managing Different Styles. A hands-on training approach is used, teaching short content pieces followed by group and individual exercises. The total of 12 modules can be broken down so that Supervision I is spread out over six weeks (six sessions, one week at a time for 2.5 hours each), then there is a one month break, and then Supervision II modules are spread over the ensuing six weeks. There are as many barriers to success as there are people. How to handle these challenges needs discussion in a safe environment.

The cost of training for six modules is \$2160 (this applies to both Supervision I and Supervision II) with a maximum enrollment of 20 individuals. Modules may be taught independently at the rate of \$450 each with the same maximum number of participants. Companies who do not have a large number of participants may wish to pool their employees with other small companies to form a cohort that the Consortium could put together at a cost of \$75 per person per module with a minimum of seven participants. The University's overhead cost is calculated at 15% of the program cost and is not included in the cost of training.

A company choosing all six modules will receive a free one-hour management overview before the training begins and a free one-hour consulting/coaching session after the training is finished. These sessions are also included as contributions from the University. The company will pay for any additional hours of coaching and mentoring. Learning processes must be more than a lecture or demonstration. That's why RWB2 will encourage coaching and mentoring to help learners apply what they learn in the workplace.

The supervision modules can be packaged together as a certificate in Basic Supervision that awards Continuing Education Units (CEUs). CEUs are a nationally recognized record-keeping unit. Each portion of the menu of modules can be combined to create a custom designed certificate program for Region 2. A certificate is awarded from IU South Bend signed by the director of Extended Learning Services and if desired, by an appropriate board official. In addition, participants receive certificates of completion for each course/workshop completed. IU South Bend has offered the Certificate in Supervision for over 25 years.

Solution 5: Work Ethic and Basic Skills

★ **EFF Credential**

The 16 EFF Content Standards define the knowledge and skills adults need in order to successfully carry out their roles as parents and family members, citizens and community members, and workers. Keeping a focus clearly on what adults need literacy for, EFF identified 16 core skills that supported effective performance in the home, community, and workplace. Then, through two years of iterative field and expert review, we defined Content Standards that describe what adults need to know and be able to do to use these 16 skills in everyday life.

Four Categories of EFF Skills:

Communication Skills <ul style="list-style-type: none"> • Read With Understanding • Convey Ideas in Writing • Speak So Others Can Understand • Listen Actively • Observe Critically 	Decision-Making Skills <ul style="list-style-type: none"> • Solve Problems and Make Decisions • Plan • Use Math to Solve Problems and Communicate
Interpersonal Skills <ul style="list-style-type: none"> • Cooperate With Others • Guide Others • Advocate and Influence • Resolve Conflict and Negotiate 	Lifelong Learning Skills <ul style="list-style-type: none"> • Take Responsibility for Learning • Learn Through Research • Reflect and Evaluate • Use Information and Communications Technology

By identifying four categories of generative skills, EFF broadened the range of skills adult literacy and basic skills basic programs are typically expected to cover. These skills include strong reading, writing, and math skills; they include the skills we need to communicate and work well with others; to solve problems and to keep up with change. These categories of skills (see chart) include those we traditionally think of as interpersonal skills, and those decision-making and learning skills we traditionally talk about as "higher order" or critical thinking. Our goal in proposing this range of standards and in framing them as we did was to shift the focus of adult literacy and basic skills instruction and assessment away from a decontextualized skills-based curriculum toward a contextualized, practice-based curriculum that was better matched to and firmly grounded in learners' own purposes for returning to schools.

Grouping the 16 generative skills into these four categories is intended to underline the interchangeability of skills within a category. For example, some activities that require adults to Work Together can be carried out most effectively by relying on oral and visual communication skills. In such situations, reading and writing may not be the most important means of communicating with others about what needs to get done.

Similarly, the specific interpersonal skills one needs to draw on will vary from situation to situation depending on the task and context. The categories reflect this variability of skills, encouraging adult learners to think about all the skills in a given category as tools they may want to draw on selectively to achieve their purpose more effectively.

Source: http://eff.cls.utk.edu/fundamentals/eff_standards.htm

★Using WorkKeys for Work Readiness Certification

Several states incorporate WorkKeys into a work readiness certificate:

The Indiana@Work Certificate: Participants take a series of WorkKeys exams and receive Gold or Blue certificates, depending on their scores. The certificate lists the WorkKeys scores they received, enabling employers to compare recipients' scores with the skill levels needed for their job openings.

Kentucky residents must receive appropriate scores in the WorkKeys Reading for Information, Applied Mathematics, and Locating Information tests. Sponsored by the Kentucky Workforce Investment Board.

Louisiana awards Gold, Silver and Bronze Work Ready! Certificates to participants who achieve passing score levels on WorkKeys exams.

Virginia's certificate is based on four tests: The Governor's WorkKeys-based Career Readiness Certificate ensures employers that the worker has achieved a competency level in Reading for Information, Applied Mathematics, Writing, and Locating Information.

Here are the ten steps ACT suggests for creating a certificate program:

1. Take ownership and make the program a priority
2. Determine economic strategies
3. Get endorsement for the program at the highest state levels, including the Governor's office
4. Establish a working group of representatives (Board of Regents, Department of Education, Department of Labor, Department of Social Services, Department of Civil Service, Community and Technical Colleges, Workforce Commissions, Department of Corrections, etc.)
5. Determine skill levels required for individuals to achieve certificates verifying their workforce competencies
6. Enlist support from agencies that will assess individuals, provide training, and promote use of certificates by businesses
7. Develop a system to maintain records for individuals who have obtained or are seeking certificates
8. Train partner agencies about the meaning of the certificates so they can communicate this information to individuals and businesses
9. Publicize the program to engage the support of businesses and the public
10. Make sure partner agencies are using the certificates and that businesses are requesting certificates when hiring

Solution 6: Career Awareness

☆ Mobile One-Stop Center (Florida)

These policies and procedures provide a model to be followed by EGR2.

Guideline and Procedures: Approved uses of the Mobile One-Stop Center

The Mobile One-Stop Center can be used for various purposes including the following:

- Responding to National and State disasters and emergencies
- Responding to plant closings and layoffs
- Providing tutorial and workforce skills training

For job seekers

For employers whose employees need upgraded skills training to avoid layoff

For employees who are trying to increase skills and wages

For programmatic training.

- Attending trade shows, job fairs and expositions
- Attending Capitol For a Day activities
- Targeting youth and elder services

At schools

At senior centers

At detention centers

At boot camps

- Targeting veterans' services
- Targeting military bases
- Reaching out to migrant and seasonal farm workers
- Providing services to rural communities
- Visiting career centers
- Visiting employer organization meetings to promote knowledge of and use of equipment and services such as:

Chambers of Commerce

Economic Development Organizations

Staffing

- Staffing for driving the Mobile One-Stop Center will be the responsibility of AWI.
- Staffing of the Mobile One-Stop Center, on site, will be the responsibility of the scheduling entity in coordination with the Mobile One-Stop Driver/Manager. The Mobile One-Stop Driver/Manager will also be an on-board resource person for assistance in operating computer and other technical equipment.
- Plans for staffing the Mobile One-Stop Center for an event will be noted on the scheduling request form by the scheduling entity.

Equipment

- Basic operation of computers, audiovisual, office and truck equipment will be the responsibility of the Mobile One-Stop Driver/Manager. Staff with skills to operate the various programmatic or training software will be the responsibility of the scheduling entity.
- Training of customers using the office and computer equipment will be conducted by trained staff of the scheduling entity or the Mobile One-Stop Driver/Manager.

Public Facilities

- Providing portable public facilities in locations where permanent facilities are not accessible are the responsibility of the scheduling entity. Such plans should be noted on the scheduling form. Cost associated with providing such facilities will also be the responsibility of the scheduling entity.

Legal Liabilities and Insurance

- Issues related to legal liabilities and insurance will be the responsibility of AWI's legal staff in coordination with AWI's One-Stop and Program Support unit.
- Issues related to insurance and reporting is the responsibility of AWI's General Services staff in coordination with the One-Stop and Program Support staff.

Cost

- The standard cost of renting the Mobile One-Stop Center is \$1300 per day. This charge reflects the actual cost to operate the unit.
- A daily charge will be assessed for travel time and setup time if additional days are required. Travel time begins when the Mobile One-Stop leaves the docking station and ends when the Mobile One-Stop returns to the docking station located in the AWI Warehouse. AWI will follow the restrictions for intrastate truck driving.
- If the Mobile One-Stop is traveling between two scheduling entities, an equitable shared amount will be assessed for that travel time.

Billing

- As the Mobile One-Stop is scheduled, the scheduling entity will indicate on the scheduling form how charges are to be paid--- e.g. RWBs will indicate which grants are to be charged for a funds transfer, other state entities will indicate their method of payment.
- General Services will send an invoice to the scheduling entity indicating the total charges accrued.

☆ **Nanotechnology, Biotechnology, and EGR2**

The Promise of Nanotechnology¹

In 1959, the challenge was issued. Richard Feynman, who had won a Nobel Prize in Physics, presented a lecture in which he suggested that there appeared to be no practical obstacles to the possibility of manipulating matter at the atomic level. Thirty years later, Don Eigler and Erhard Schweizer, working for IBM, demonstrated the ability to create the IBM logo out of 35 xenon atoms, a feat now viewed to have been as earth-shaking as the Wright Brothers' first flight or Alexander Graham Bell's calling "Watson come here, I need you," on the first telephone.

Today, seventeen years after that nanotechnological "big bang," there is a great deal of interest and activity being spent in pursuing science at the level of the nanometer (1 billionth of a meter). Currently, about 1,500 American companies are working on projects that involve this kind of technology, and the federal government has announced that it will pursue an increased role for funding nanotechnology and biotechnology research.

Already, a number of products have appeared on the market, in which nano-processes and nano-structures are utilized:



Image courtesy of O'lala Foods

Move over, Willy Wonka: Chocolate gum from O'lala Foods uses "fat mimetics" - or the science of copying the functions of fat - to combine the creamy feel of chocolate with a chewing gum base.



The iPod, trade name "Nano," specifically plays on the fact that it uses circuitry that includes components less than 100 nm (nanometers) in size. Similarly, Choco'la advertises its use of "nanoscale crystals" to mimic the texture and flavor of chocolate.

These and the following are found at: http://www.forbes.com/newsletter/2006/01/10/apple-nano-in_jw_0109soapbox.inl.html

nanotechnology:
"the willful manipulation of matter at the atomic level to create better and entirely new materials, devices, and systems."¹

¹**Uldrich, Jack and Deb Newberry. *The Next Big Thing is Really Small*. New York: Crown Publishing, 2003.**

Nanotechnology is also finding its way into the beauty and personal care markets, with products such as Zelens Fullerene C-60 face cream, 3-M Dental Adhesive, and Flex-Power Joint Pain relief.



A Nanotech Facial - Zelens Fullerene C-60 Face Cream

Zelens Fullerene C-60 Day Cream, as the name implies, incorporates nanoscale Fullerene C-60, a derivative of the late Nobel Laureate Richard Smalley's buckminsterfullerene carbon. It turns out that the material has remarkable antioxidant properties. Zelens claims its newly released day cream is the first to harness the power of Fullerene C-60 carbon for cosmetics applications. That helps to explain the product's £150 (\$250) price tag. Unless you're traveling to the U.K., add on a shipping charge. Customers on this side of the pond can obtain a jar via direct order by e-mailing.

3M Dental Adhesive

Having a porcelain veneer, tooth restoration or root canal work soon? Your dentist just may put nanoparticles in your mouth to help your new crown stick better. As we featured in our September story, "3M: Practicing Nanotechnology Without the Hype," 3M ESPE, a 3M subsidiary in dental adhesives, announced a new option in total-etch dental adhesives: Adper Single-Bond Plus Adhesive. The new adhesive incorporates a silica nanofiller technology that forms a stronger bond to tooth enamel and does not need to be shaken by dentists prior to using in order to prevent particle clustering, which can decrease performance.



Flex Power Joint And Muscle Pain Cream

Recently featured on CNBC, Berkeley, Calif.-based Flex-Power may give BenGay (owned by Pfizer) and Mineral Ice (owned by Bristol-Myers Squibb) a run for their money. Started in 1999 by ex-UC Berkeley soccer player and pro-athlete money manager Bijan Esmaili and Rasheen Smith, Flex-Power claims to use 90 nanometer liposomes to soothe aching muscles. More than 20 pro athletes, including Jason Kidd and Hakeem Olajuwon, are investors.



http://www.forbes.com/newsletter/2006/01/10/apple-nano-in_jw_0109soapbox.inl.html

Athletes will also be able to make use of other products featuring new technologies. Easton, a venerable maker of base- and softball bats has released its "Stealth Bat," in which carbon nanotube technology has been used to enhance the strength of the bat without increasing weight.



Whether or not one would like to think of golfers as "athletes," there is nanotechnology available for them, too:

Golf Balls And The "Nano" Driver



Tokyo-based Maruman & Co. has adopted fullerenes from Honjo Chemical for use in the top of the line "New Majesty" driver, which went on sale on July 5 of 2004. Compared to conventional titanium, the new driver resists bending 12% better, has a hardness 3.6% better than titanium, a 20% more resilient head and an increased flight distance of 15 yards as compared to their old 360cc class driver.

Buffalo, N.Y.-based NanoDynamics might have a nice accompanying stocking stuffer. NanoDynamics came up with a golf ball that can correct its own flight path. The design of the ball--and the undisclosed nanomaterials it's made of--serve to better channel the energy received from the club head, and thus correct a wobble or slight drift. The ball is expected to hit stores in the spring of 2005.



According to the U.S. government's office of nanotechnology information-gathering and oversight, the National Nanotechnology Initiative, the current state of the industry is termed a "pre-competitive" stage. A number of products incorporating the technology have been brought to market, but have not spawned many competitors, mostly because of the significant amounts of money needed for research and development, and then production. The raw materials of nanotechnology can be acquired in powder or liquid forms, and then need to be applied to or combined with other materials to yield increased strength or other unique characteristics. Nevertheless, a number of different applications have indeed been developed, including some of interest and importance to EGR2.

For several years, the electronic, fiber optic, pharmaceutical, cosmetic, energy, and materials industries have used nano-scale applications. More recent innovations include: ref. www.nano.gov/html/facts/appsprod.html

- Step assists on vans
- Car bumpers
- Automotive and home paints that resist scratches
- Glare-reducing coatings for eyeglasses and windshields
- Metal-cutting tools
- Long-lasting tennis balls
- Stain-free mattresses and clothing

Washable Bed Mattress

The most recent products include:

- Ink
- Automobile catalytic converters
- Cell phone displays
- Machinery coatings that reduce wear
- Sensors for airborne toxins
- Cooling chips that replace compressors in refrigerators and automobile air conditioners
- Medical lab-on-a-chip, implantable
- Implantable drug-delivery devices

In October, Simmons Bedding Company, one of the world's largest mattress manufacturers, unveiled its latest innovation--the HealthSmart Bed, featuring a zip-off mattress top that may be laundered or dry cleaned. The top is available on all Simmons Beautyrest and BackCare mattresses and is targeted to sell at price points of \$1,399 and above. Its coolmax-channeled fibers wick away sweat and moisture as you sleep and allow fabric to dry quickly in the laundry. In the second layer, Nano-Tex creates a semi-impervious layer that traps fluids and particles so they can be washed away. The third layer is Terry cloth treated with Teflon fabric protector that provides an extra level of protection.



In EGR2, the emerging impact of nano-scale technology is in three arenas, the transportation vehicle industry, the orthopedic industry, and to a lesser extent the metal-forming industry. Thus regional industries are being affected by this technology, but none are taking advantage of the potential for developing new products using nano-processes. The region's future can be characterized either by innovation, or by decline and deterioration. Which of those directions becomes dominant depends on decisions we need to make quite soon.

January 26, 2006:

Nano-Proprietary, Inc., through its subsidiary Applied Nanotech, Inc., is developing "nano-structured catalyst materials that can be sprayed on flexible fiberglass cloth, and which will decompose air contaminants and pollutants at the molecular level."

- news release

February 13, 2006:

Because of their size, filters made of nanoparticles also have been found to be excellent for liquid filtration. Several products are not available for large-scale water purification that can take out the tiniest bacteria and viruses from water systems, in addition to chemicals and particulate matter.

www.nano.gov

There seems to be no inherent reason why these kinds of innovations could not take place in EGR2, except for the lack of awareness of possibilities and the lack of needed knowledge and workforce skill sets that could make such products a local reality. Of regional importance, however, is the fact that significant amounts of research and discovery have been accomplished in the arena in which nanotechnology meets the life sciences – biotechnology.

Biotechnological Innovations and EGR2

Biotechnology has been described as the “use of nature’s own processes to advance the human condition.” (U.S. Department of State, *eJournal USA: The Promise of Biotechnology*, October, 2005) A modification of this definition might include the ability of researchers to replicate nature’s processes using man-made materials and systems. Historically, biotechnology goes back a very long way – probably to the invention of beer, in which microorganisms are used to create the brew, which became known technology at least 4000 years ago. More recently, two developments led to an explosion of biotechnical research. The first was in the 1950s, when Watson and Crick interpreted the available data in such a way as to come up with the double-helix structure of DNA. That event, however, was not the “big bang” of biotechnology. That occurred in the 1970s, when scientists mastered the ability to use “restriction enzymes,” proteins that could “cut” DNA molecules so that a gene could be transferred from one organism to another. The resultant substance is called “recombinant DNA,” and its potential gave birth to modern biotechnology. The outcomes of this technology have been as varied as the genetic engineering that produces disease-resistant plants, the discovery of fuels and fuel systems that utilize biomass instead of fossil fuel, molecular machines that replicate plant’s photosynthesis in order to generate energy from sunlight, and the production of artificial joints and bones by companies located in EGR2.

EGR2 and NIACS 3391 – Health Equipment Manufacturing

At Zimmer, Inc., located in Warsaw (Kosciusko County) researchers have developed materials for building knee and other joints that not only mimic the movement of the replaced joints, but also provide a structure into which bone cells can grow, thus integrating the artificial and natural into a structural whole:

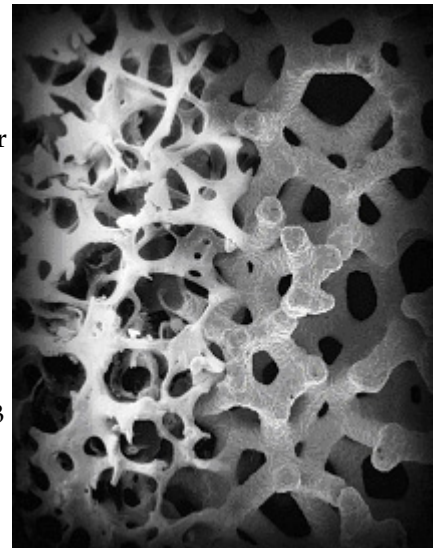
Trabecular Metal™ Technology

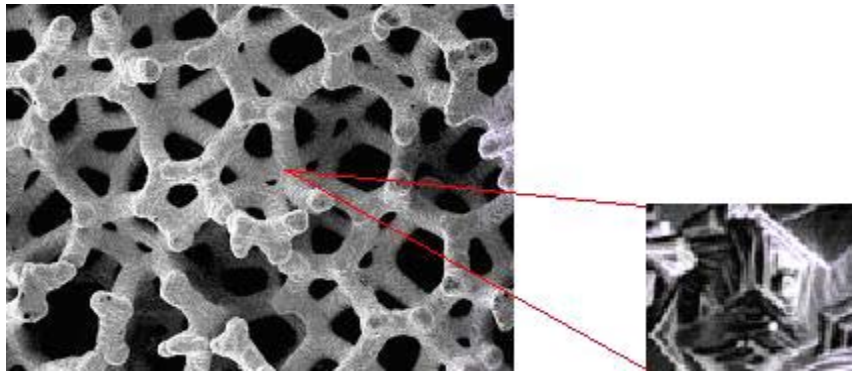
The Best Thing Next To Bone™

The cellular structure of *Trabecular Metal** resembles bone and approximates its physical and mechanical properties more closely than other prosthetic materials. The unique, highly porous, trabecular configuration is conducive to bone formation, enabling rapid and extensive tissue infiltration and strong attachment.

Physical Properties

Trabecular Metal consists of interconnecting pores resulting in a structural biomaterial that is 80% porous, allowing approximately 2-3 times greater bone ingrowth compared to conventional porous coatings and double the interface shear strength.^{1,2} *Trabecular Metal* implants are fabricated using elemental tantalum metal and vapor deposition techniques that create a metallic strut configuration similar to trabecular bone. The crystalline microtexture of a *Trabecular Metal* strut is conducive to direct bone apposition.





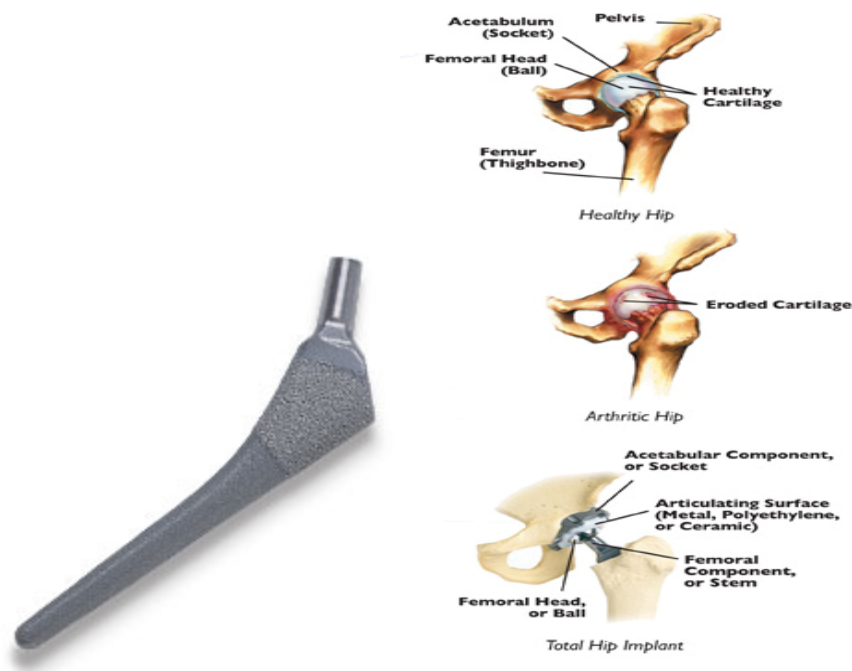
Elemental tantalum unites strength and corrosion resistance with excellent biocompatibility. These characteristics help explain tantalum's surgical use for more than 50 years in applications such as cranioplasty plates and pacemaker leads.

<http://www.zimmer.com/z/ctl/op/global/action/1/id/33/template/MP/navid/312>

Similarly, another Kosciusko County-based orthopedic equipment company, Biomet, uses micro-technology to accomplish the same mission:

Hip Replacement - Biomet

Bi-Metric® Total Hip System



The Bi-Metric® total hip system is one of the most successful hip systems in history. The extraordinary success of the implant is related to its design, which promotes an even transfer of weight-bearing stress between the implant and your thighbone. Evenly transferring normal stress can encourage a strong, healthy thighbone. In addition to its design, the Bi-Metric® hip is made of titanium alloy. The benefits of titanium alloy include increased strength and flexibility to maximize the transfer of stress from the implant to your thighbone.

The top of the implant also has a porous coating of titanium alloy. The coating encourages your bone tissue to grow into it, helping to stabilize the stem, eliminate pain, and increase the implant's longevity. Titanium alloy is used because it is more biocompatible (bone friendly) than other metals. Using titanium alloy potentially increases your bone tissue's ability to grow into the porous coating.

Since 1984, Biomet's Bi-Metric® hip system has been helping people, like you, continue to lead active, productive lives. You can be sure that your surgeon is using proven technology and a time-tested design.⁴ The Bi-Metric® hip is just one option available to you and your orthopedic surgeon. Only your orthopedic surgeon can determine if you are a candidate for the Bi-Metric® hip or if another type of implant would better suit your needs and unique situation.

Porous Coating

Porous Coating Allows Bone to Grow into the Stem

For the cementless femoral component to be stabilized, bone must grow into the stem. Biomet applies a coating of titanium alloy to its cementless stems. Using a porous plasma spray known as PPS®, Biomet bombards its implants with small titanium alloy particles, creating a very rough, three-dimensional coating that allows bone to intertwine with the porous surface. Research has shown that Biomet's titanium alloy coating is highly biocompatible and typically generates the desired ingrowth.

http://www.biomet.com/patients/hip_replacement.cfm

Other Biotechnologies

Biomedical equipment is certainly not the only domain in which biotechnology is important, nor is it the only appearance of biotechnology in our region. For many years, regional farmers have planted corn hybrids to increase yield, or, in the case of sweet corn, taste. In addition, corn hybrids are continually being developed to supply the ethanol industry, represented in our region by the New Energy ethanol plant in South Bend, with products that more readily convert to mash. With the federal government recently announcing new emphasis on the development of alternative energy sources, especially ethanol, there is renewed interest in biomass products and processes. The future also bodes well for companies like Valley Research, of South Bend, which produces alpha-amylase and glucoamylase enzymes, as well as powdered and liquid yeasts, all of which are used to facilitate the production of ethanol.

Refer to: <http://www.valleyenzymes.com/>

Soybeans and maize are other local products that appear to have significant futures in the production of alternative energy sources. Soy-based diesel fuel has been tested for several years, and is the target of recent government initiatives:



This bus runs on soybean-based fuel, and recent government initiatives have begun the process of developing automobile and truck engines capable of using the same fuel source. Such fuels, along with ethanol, are potential economic developments that EGR2 can readily take advantage of.

Maize, which can be grown locally, has been successfully converted into plastic pellets, from which a variety of products can be cast, molded, or spun. Ref: <http://usinfo.state.gov/journals/journals.htm>

Of great potential in the field of biotechnology, and of importance for EGR2, is the development of new and esoteric medicines. Genomics, the study of the functions of genes, and proteomics, the study of the functions of proteins, have combined to open a previously untapped field of drug research. Formerly, drugs originated from natural sources as a result of search, discovery, and (frequently) luck. Now, it is possible to create drugs systematically, using knowledge in genomics/proteomics and nanotechnology to create "microarrays" that test the activity of thousands of chemicals on disease-causing proteins at the same time. The potential for this kind of research, and the subsequent creation of small, specialized pharmaceutical manufacturers, exists in EGR2 because of ongoing research utilizing cutting-edge technology located at the University of Notre Dame and recently-announced developments in the transmission of large amounts of data between Notre Dame, Purdue, and the Argonne National Laboratory using fiber optic communication technologies (known as the Metronet). It is quite conceivable that in the fairly near future, local entrepreneurs will take advantage of technologies, and funding, in the area of drug discovery, and that a portion of the workforce will be employed in this field. Such a workforce will require computer skills, facility with measuring devices, a hearty background in basic science, knowledge of communications technology, and other skills that are now emerging, and that can be addressed in the program described in Solution 7 of this report.

According to the federal government, a number of emergent occupations are and will be associated with the field of biotechnology, including: (figures refer to national data)

Occupation Title		Projected need	2004 Hourly Wage			Educational Level:		
		2002-2012	lower 10%	Median	upper 10%	high school	some college	college degree
						% of workers having		
Medical and Clinical Lab Technologist		69,000	\$16	\$22	\$30	15%	35%	50%
Medical and Clinical Lab Technician		68,000	10	15	22	15	35	50
Chemical Technicians		20,000	11	18	28	31	40	29
Biological Technicians		17,000	11	16	26	25	16	59
Agricultural and Food Science Techs		6,000	9	14	23	34	27	39

Source: www.careervoyages.gov/biotechnology-indemand.cfm?pagenumber=1



Letters of Endorsement

Letters of Endorsement are included from:

➤ **Industry Partners**

- ◆ Polygon Company
- ◆ Indalex Aluminum Solutions
- ◆ Bull Moose Tub Company
- ◆ Master Metal Engineering
- ◆ Memorial Health System
- ◆ Memorial Hospital of South Bend
- ◆ Miller's Health Systems Inc.
- ◆ Elkhart General Healthcare System

➤ **Postsecondary Institutions**

- ◆ Purdue University Technical Assistance Program
- ◆ Purdue University College of Technology South Bend/Elkhart
- ◆ Indiana University South Bend
- ◆ Indiana University South Bend Extended Learning Services
- ◆ Ivy Tech South Bend
- ◆ Ivy Tech Workforce and Economic Development South Bend

➤ **Other Partners**

- ◆ CEI – Consultants for Educational Institutions
- ◆ Rochester and Lake Manitou Chamber of Commerce
- ◆ Fulton Economic Development Corporation
- ◆ The Chamber – Chamber of Commerce of St. Joseph County
- ◆ Warsaw Kosciusko County Chamber of Commerce
- ◆ City of South Bend
- ◆ U.S. DOL Bureau of Apprenticeship and Training
- ◆ WorkOne
- ◆ Goodwill



Polygon Company
P.O. Box 176
103 Industrial Park, Dr.
Walkerton, IN 46574

Ph: 800.918.9261
Ph: 574.586.3145
Fx: 574.586.7336

February 1, 2006

Dan Hendricks
Northern Indiana Workforce Investment Board
401 E. Colfax Ave - Suite 307
South Bend, IN 46617

Re: Strategic Skills Initiative

Dan:

I would like to thank you for letting me be a part of the program mentioned above, at first I was not sure if I wanted to take the time, but like other manufacturing company's we are finding a shortage of good, qualified individuals to join our team here at Polygon Company.

The round table discussions were very helpful and we did find that we were all looking for a person we would even take the time to train if this person would come to work everyday and do at least 90% on the job. I have decided to get involved with the area schools and see about putting up information about Polygon Company for the graduates who do not plan on going to college or further their education. This country grew because of manufacturing and we need to emphasis this to everyone. We can point fingers, but what we really need to do is set up an agenda on how we can turn around the negativity of manufacturing and teach individuals that in order to get ahead in life you need to work and plan. **Not just live for Today.**

I have been very impressed with the way this program has been handled and I feel very confident that **all** of us can make a difference for the future.

Sincerely,

Nora M "Suzie" Johnson
Human Resoucrs
POLYGON COMPANY



Indalex Inc.
2384 Reedy Drive
Elkhart, IN 46514

February 28, 2006

To Whom It May Concern:

I have been involved in the Strategic Skills Initiative since the program was first described in an Employer Advisory Committee meeting that took place in Elkhart's WorkOne center in mid-2005. I have since been a part of a focus groups and have attended several consortiums that have helped gather and solidify the information that has been presented to the State. It has definitely been an interesting road, and I am proud to say that I have been able to be a part of the process.

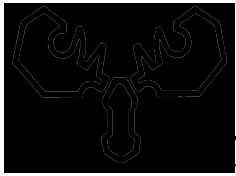
Although most of the positions mentioned in the reports do not affect Indalex Inc., the one that does, front line supervisors, is key to our continued success. Indalex Inc. Elkhart facility has a high level of turnover in our Elkhart facility, compared with other locations within our organization. The primary reason (nearly 50%) for turnover is attendance. Front line leaders are the key to dealing with and combatting attendance tendencies before they become issues; however, their lack of training hinders their ability to do so. Indalex Inc. is a firm believer in promotion from within, but placing an excellent press operator into a leadership position when they have no training is setting them up for failure. There is typically an immediate need when a new leadership position opens up, and we fill it internally, as soon as possible, even though most candidates have no leadership training whatsoever. This leads to increased turnover, decreased productivity, and decreased colleague morale, which are detrimental to any business. We have begun using DDI training; however, it would be very helpful if there were somewhere else candidates could receive the proper training also. Having an outside source we could send potential leaders to, to be trained, would give them a better probability of success when they are placed into a leadership role. Let's face it...There are very few people that can benefit from leadership training.

This project is so important to the area. Several manufacturers are trying to fill key manufacturing positions within their facilities but have found themselves unsuccessful due to a lack of qualified candidates, which in turn can drive hourly wages up and make it more difficult for some companies to find candidates while allowing candidates to move from one employer to another due to the higher hourly wage. The positions mentioned in the report are critical in this area and essential to producing the products that are produced here.

I am proud to be able to say that I have taken part in this initiative, from participating in the focus group that helped determine the skill shortages to answering questions and generating ideas that helped the report writers compile reports that will hopefully reward this region with a sizeable amount of funds to aid in the training for such strategic shortages.

Thank you,

Beth A. Firestone, SPHR
Human Resources



EL MOOSE TUBE COMPANY, ELKHART

29851 CR 20 WEST
ELKHART, IN 46517
574-295-8070
574-293-8097 FAX

POST OFFICE BOX 1037
ELKHART, IN 46515-1037

Mr. Dan Hendricks, Vice President
Northern Indiana Workforce Investment Board
401 E. Colfax Avenue, Suite 307
South Bend, IN 46617

Dear Dan:

I want to take a minute to let you and your team know how really important I feel your task of outlining the root causes for our region's critical skills shortages, identifying solutions, and incorporating these solutions into a viable implementation plan to relieve these shortages. This initiative truly can and I have confidence will set the groundwork for creating a healthier employer environment, which in turn will add to the economic attractiveness and higher standard of living for all the communities in our region.

Having responsibility for a manufacturing plant in this region which generates over \$100 million in sales and many millions of dollars spent on wages, salaries, benefits, and other direct cost much of which stays in Northern Indiana, it is critical that our workforce is capable of competing with the needed skills both now and in the future. We realize that we are not just competing domestically, but our competition is now global. I along with many of my colleagues fear that we soon may lose our ability to maintain our position in the world economy if we don't change certain paradigms. Certainly one of them is the way we approach skill gaps of both the incumbent and emerging workforces.

I am very fortunate to have had the opportunity to serve in many capacities including Chairman of the Northern Indiana Workforce Investment Board for the last six years. This has given me a close up look at our region's strengths and weaknesses. Now being a part of the NIWIB Taskforce on Strategic Skills Initiative, I am getting the chance to work on one of the weaknesses I feel exist, that of an adequate means to alleviate those skills gaps that do presently and will in the future if not addressed hinder our region's economic growth and prosperity.

Sincerely,

Jack Isles
General Manager



February 9, 2006

Dan Hendricks
Northern Indiana Workforce Investment Board
401 E. Colfax Avenue, Ste 307
South Bend, IN 46617

Dear Dan,

Let us begin by saying "Good Job!" The effort that your team has put forth into the Strategic Skills Initiative is truly phenomenal. This initiative to identify and alleviate critical skill shortages in strategic occupations is very timely. In the past, finding qualified candidates for our CNC positions had been fairly easy. In many cases, they were knocking on the door before we even began looking. However, in the last few years this scenario has changed greatly. Qualified candidates are few and far between as a very limited number of individuals are entering CNC training programs. This has caused many issues for our company as we are increasing sales and trying to expand our workforce. The work that we do is primarily for the medical industry and the tight tolerances and exact dimensions require very skilled machinists.

Through our participation in this project from the beginning, we have heard the same from many other employers in our region. The focus groups and consortium meetings have really drawn attention to the fact that this is a growing issue and not just in the CNC area. The employees are the lifeblood of any organization. In order for companies to be successful and to continue to contribute to the economic success of our region, we must be able to fulfill our employment needs from the local workforce. A skilled workforce is also essential for our region to attract other industry to the area.


The Strategic Skills Initiative is a big step in the right direction. The strategic occupations that have been identified are just the beginning of the process, but an excellent start. Educating individuals on the career opportunities available to them and also training for those opportunities will definitely strengthen the workforce. A higher skill base should also increase average wages and in effect improve the overall standard of living within the region.

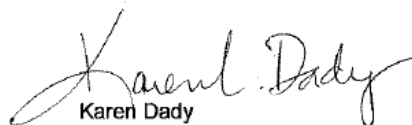
In the future, we anticipate using the proposed training-- both the CNC and First Line Supervision programs. The virtual reality CNC training could be very beneficial to us. The awareness and education that should be achieved with secondary and post-secondary individuals is also very exciting. The pipeline of workers is currently almost empty and both of these proposed projects will in all likelihood restart the flow.

Master Metal Engineering stands ready to commit funding resources to the Strategic Skills Initiative given that it will provide us with an efficient, cost-effective training venue. We have a labor intensive business that requires advanced CNC machining skill sets. We recognize that we will be required to provide a greater degree of training since the skill level of applicants is not as great as in the past. We are confident that the Strategic Skills Initiative will provide us with the best value approach to our future training needs.

In closing, thank you for your hard work and we greatly anticipate the results of this endeavor.

Sincerely,


Brian Pyszka
President


Karen Dady
Human Resources Manager



4520 BURNETT DRIVE SOUTH BEND, IN 46614 PHONE: 574-299-0222 FAX: 574-299-1187 www.mastermetal.net

Memorial

Health SystemSM

HUMAN RESOURCES

Dan Hendricks
Vice President of
Strategic Research & Development
Northern Indiana Workforce Investment Board

Dan Hendricks:

In 2003 I attended an American Society for Healthcare Human Resources Administration (ashra) conference where I heard a presentation by Emily de Rocco, Assistant Secretary of Labor for Employment and Training. During de Rocco's presentation she shared how Workforce Investment Boards (WIB) across the United States were helping communities increase the number of qualified healthcare staff. She emphasized the need for Human Resources professionals to becoming involved with their local WIB. I left this presentation with a drive and determination to get involved with my local Workforce Investment Board.

As chance would have it, within two weeks of returning from this conference, I was in a meeting with Juan Manigault, President of the Northern Indiana Workforce Investment Board (NIWIB). I told Juan of de Rocco's presentation and my interest to be part of NIWIB. He explained what I needed to do to become a board member. After discussing my interest with a few other individuals, I was appointed by Major Luecke to be part of the NIWIB.

I am now the Chair of the NIWIB Strategic Skills Initiative (SSI). As I said above, my intent was to get involved and make a difference, but little did I know just how much my involvement could impact my hospital and this region. I believe my involvement with SSI has helped to bring healthcare staffing shortages to a new level of awareness in our region. Being the Director of Human Resources for a large community hospital and healthcare system, I know all too well the struggles hospitals face when there are staffing shortages. Because of my position on the board, I was able to share the challenges of recruiting an adequate number of qualified healthcare professionals. During the research phase for SSI, I heard other Human Resource Directors echo the same staffing shortages I face, especially for Respiratory Therapists and Registered Nurses.

Being short staffed in a hospital is a little different than other businesses. We cannot close our doors or slow down patient care. The most common way to deal with a short staffing situation is to ask your current staff to work extra hours, which can lead to staff burnout. Another way to address healthcare staff shortages is to hire travelers - who

are VERY expensive. It's not uncommon to pay three to four times more for a traveler than you do for your own staff. There are also additional charges associated with travelers, such as living and travel expenses. Even when you can find a traveler you have to make sure they are competent and oriented to your hospital, which takes time. Just because a person is a licensed RN or Respiratory Therapist doesn't mean they are competent to care for patients. If you skip a beat during orientation, and something negative happens, that could permanently affect a patient's life or lead to death.

We identified several solutions in our SSI proposal and I want to emphasize my full support for all of those initiatives. I believe the two programs that would have the greatest impact on our region would be the creation of a Respiratory Therapy program at the IVY Tech campus in South Bend and the Masters of Science in Nursing Degree program at Indiana University South Bend. These programs would provide hospitals with qualified candidates and career opportunities for people in our region, which means an increase in their financial earning potential.

I want to reaffirm Memorial's commitment to provide laboratory space for the proposed Respiratory program, if it is approved. We are also willing and eager to have Respiratory students complete their clinical requirements at Memorial. Once these programs are approved, we will develop a communication plan to ensure our employees are aware of these new programs. I believe Memorial will have several staff members who will take advantage of their tuition reimbursement and participate in both the Respiratory and MSN programs.

As the Chair of SSI, I also attended a manufacturing focus group where skill shortages were being discussed and have heard several Human Resource Directors talk about the shortages they face. I noticed that there was a consensus among this group regarding the specific skill shortages they face in manufacturing. As you know, manufacturing is essential to our region's economic success and I support these proposed initiatives as well.

Best regards,

Jinny Longbrake, PHR
Director of Human Resource

Memorial
Hospital of South Bend*
Quality of Life

Mr. Dan Hendricks,
VP Strategic Research and Development
Northern Indiana Workforce Investment Board

Dear Mr. Hendricks,

I would like to thank you for your involvement and hard work on the Strategic Skills Initiative. We certainly are faced with major shortages in the field of Respiratory Therapy in our area of St Joseph's County and appreciate any support in the development of a Respiratory Therapy program to help with our staffing shortages. We are faced with often utilizing traveling therapist staff that cost more than double what we pay are regular staff and often it is a crap shoot in the skill level of the particular traveler we are bringing in. Being involved in the consortium has really opened up my eyes to the major issues that face our region and that I am not the only one in this predicament. I believe that SSI's involvement to our area will produce genuine answers to the problems we face and I am excited about the possible outcomes for our Region. Our organization is looking at providing space to help facilitate a learning lab to help in the training of future Respiratory Therapists and we are very interested in supporting the SSI. We certainly want to be part of the solution to the problems our Region is facing and wish to continue our support through focus groups and continued dialogue about solutions to the economic future of our area. Again, thank you for efforts and I look forward to working with you and the consortium in the future.

Julian Lewicki

Julian Lewicki
Assistant Director – Pulmonary Services
Memorial Hospital and Health Systems
South Bend, IN. 46628
Phone: 574-647-7069



615 North Michigan Street • South Bend, Indiana 46601-0033
www.qualityoflife.org

Miller's Health Systems, Inc.

February 8, 2006

Juan Manigault
Northern Indiana Workforce Investment Board
401 E. Colfax Avenue, Suite 307
South Bend, IN 46617

Dear Juan:

I have been a member of the NIWIB Board for about 1 ½ years, and was assigned to the Incumbent Worker Council. The transition of that Council to the Strategic Skills Initiative, along with the advent of Dan Hendricks and Chuck Pressler, has been exciting and invigorating, and given us a perspective that we were not able to achieve on our own. As a Human Resource professional in the private employment sector, my company has consistently had a need for certain positions for which there has been an inadequate supply. The SSI progress in the last several months has given me a surge of hope that there is "help out there", and it can reach the people who need it.

I believe that the Strategic Skills Initiative program has given all of us an excellent and concise determination of the root causes of barriers to individuals attempting to become self sustaining in the employment realm, in addition to the barriers inhibiting the economic growth of our Region, as one follows the other. I was impressed with the achievable solutions proposed for breaking bottlenecks to progress, and the action planning to implement the solutions. In my work arena, long term health care, the impact is far reaching and will easily have application in all five counties in the Region. From participation in Roundtable Forums with similar organizations, I found the same eager anticipation for applications of the SSI Program. I even explained it to a national Roundtable Group of Human Resource Executives with whom I meet semi-annually, and found much interest, many questions, and a lot of positive feedback from all 25 company representatives.

Currently, my organization pays books and tuition fees for individuals entering educational programs to become Certified Nursing Assistants, Licensed Practical Nurses, Registered Nurses (both 2 and 4 year degrees), and Certified Dietary Managers, though we do not subsidize living cost for the individual while they are in school. In the five county area we have invested approximately \$175,000 in the last three years in these certifications and degrees alone, which doesn't include routine skills, clinical, and supervisory training that is ongoing in our seven geographic locations. In total, we

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expend about \$250,000 annually in continuing education and internal and external training. Cost sharing in this area would be welcome, but the greatest proposal is the potential of resolving the issues of insufficient clinical sites and instructors, which ties the hands of the individuals attempting to make a better life for themselves, and prohibits expansion (and consequently more employment) on our part.

I remain available to the SSI Program to assist however I may.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ann Rollman".

Ann Rollman
Sr. Vice President



February 14, 2006

Dan Hendricks
VP Strategic Research & Development
Northern Indiana Workforce Investment Board, Inc.
401 E. Colfax Ave.
Suite 307
South Bend, IN 46617

Re: Strategic Skills Initiative

Dear Dan:

The purpose of this letter is to offer our support to the Strategic Skills Initiative for our Northern Indiana Region. As a background, allow me to give you some statistics on Elkhart General Hospital in Elkhart County. We employ approximately 2,400 employees with at least 900 positions which we refer to as "hard-to-recruit". These are positions such as RN, Respiratory Therapy, and Radiology Techs. Each year we employ approximately 150 hard-to-recruit positions. Currently, our vacancy rate is below state averages due to a significant amount of recruitment through out the region, however, our turnover is at the national average. This current condition is even with our Employee Opinion Survey being one of the highest in the country and significant compensation and benefits package. Basically we have a good story to tell, but recruitment efforts continue to be a struggle for our Hospital, as well as others in the area. In addition, we expend a great deal of resources in hiring these 150 hard-to-recruit positions every year. We have approximately \$110,000 in scholarships that we provide, and \$75,000 in tuition reimbursement that we provide on an annual basis. We have a full time Career Counselor, one of very few in the nation, which as a full time job is to educate in the school districts, as well as recruit for these hard-to-recruit positions at all area colleges. This individual receives approximately \$45,000 in direct salary. On top of this we spend approximately \$150,000 - \$200,000 additional dollars on direct recruitment campaigns and mailers to try and attract this type of talent.

As you can see as indicated above, we have significant money and time spent just keeping up with the current demand for rare skills in the healthcare environment. The good news is that we are maintaining our current level of employment, the bad news is that this will only get worse.

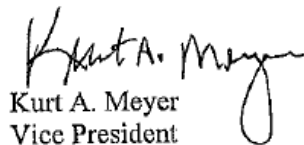
Elkhart General Healthcare System
600 East Boulevard
Elkhart, IN 46514
Phone: 574/294-2621
www.egh.org

Our local economy has been positive the last few years, however, we have increased volume in the Hospital by 25% due to all the healthcare needs of local residents. We are beginning to see significant volume increases due to the baby boomers aging and poor health habits throughout the region. Therefore, we significantly support this Strategic Skills Initiative for our entire region and our peer hospitals as we need to “float all boats” and develop the talent throughout the entire region.

This is the right initiative to support in the State of Indiana given the fact that auto firms and other manufacturers are declining and healthcare needs are growing. Clearly there is a need and there are people interested in obtaining degrees in the healthcare environment and we need to facilitate their ability to enter schools that can pay significant wages and provide good employment for decades to come. Our average wage for most of these positions are between \$40,000-\$45,000 to start, which are significant wages, and after a few years increase to \$50,000-\$60,000.

We appreciate all the work the WIB has done for this project, and we are behind it 100%. If you need further details or more information, please feel free to contact me at (574) 523-3401, or via e-mail at kmeyer@egh.org.

Respectfully,



Kurt A. Meyer
Vice President
Human Resources/
Physician Practices



TECHNICAL ASSISTANCE PROGRAM

Suzanne Wheeler

Workforce Skills Specialist

swheeler@purdue.edu

Purdue Technology Building

1733 Northside Blvd.

P. O. Box 7111

South Bend, IN 46634

(574) 520-4184 Fax: (574) 520-4286

www.purdue.edu/TAP

February 2, 2006

Mr. Juan Manigault

Northern Indiana Workforce Investment Board

401 E. Colfax Avenue, Suite 307

South Bend, IN 46617

Dear Juan:

I am writing this letter to express my continued support for the Northern Indiana's Workforce Investment Board's Strategic Skills Initiative for Region 2.

I believe that both Dan Hendricks and Chuck Pressler have done an excellent job in bringing together all 'interested' stakeholders from the region and engaging participants of the consortium and focus groups to discuss not only the problems relative to the critical skill shortages in this region, but to also seriously look at the 'root' causes and ultimately to look at identifying the appropriate solutions to the skill shortages issues here.

I thought that the 'model' for group brainstorming that Dan and Chuck used was excellent, in that, it allowed everyone in each group to participate freely and didn't allow for any one person or organization to dominate the discussion. This, I believe, will provide a very accurate picture of the skill shortage situation, its root causes and more appropriate potential solutions for addressing this issue here.

I have enjoyed being able to participate in the consortium and the focus groups from both a personal and a professional perspective. I have been able to share information and ideas that I have picked up from others in the state, as well as continue to learn and gain new ideas and strategies from other participants in each group. I also have a personal and professional passion

for improving the state of our workforce. Working with employers, I continually hear about their concerns and problems relative to their current and future workforce, and I believe that this Initiative, as a collective group, will help all of us who are interested, get at the 'real problem' (root causes) and finally be able to focus all of our efforts, working together, to solve it.

Finally, I believe that the input from those stakeholders and interested person's who have participated in this process, is representative of our entire region. While some may believe this effort should have been, at the most, a county issue, I disagree in that the strength of not only our regional economy and workforce, but our state's, is strongly influenced by not only our neighboring cities and counties, but also by our neighboring states and regions. With a global economy, it is critical that we all collaborate wherever we can to maximize utilization of our resources and to have the greatest impact.

Thank you for allowing me to participate in this exciting initiative. I look forward to continuing to participate and to support your efforts.

Sincerely,

Suzanne Wheeler

Suzanne Wheeler
Workforce Skills Specialist

February 6, 2006

To Whom It May Concern,

I am writing in full support of the Strategic Skills Initiative proposal being submitted by the Northern Indiana Workforce Investment Board. Purdue University is one of the premier universities in the world focusing on science, engineering and technology. As such we are eager to work with other organizations and institutions in our region to alleviate critical skill shortages strategic to our region's economic prosperity. This grant will afford our region an opportunity to have a significant impact in the arenas of workforce and economic development.

Over the past 16 years, students completing postsecondary programs in technology have decreased significantly. Important work must be done to reverse this trend. The elements contained within this grant would do just that, and serve as a model for other such efforts around Indiana and the country. As a member of the SSI consortium and focus groups on manufacturing, I can attest to the underlying comprehensive development work supporting the varied solutions contained in this region's proposal.

Thank you for your consideration.

Sincerely,



Mark A. Curtis, Ed.D.
Director and Professor



INDIANA UNIVERSITY
SOUTH BEND

February 9, 2006

Juan Manigault
President and Chief Executive Officer
Northern Indiana Workforce Investment Board
401 East Colfax Avenue, Suite 307
South Bend, IN 46617

Dear Juan:

As dean of the School of Business and Economics at Indiana University South Bend, I have taken an active interest in the good efforts of our regional WIB and the SSI because I view your success and ours as closely linked. We cannot develop fully nor flourish in our institutional mission if Northern Indiana does not prosper as well. We are energetic supporters of the SSI report submissions to this point and look forward to playing our part to help solve our region's workforce skills gaps during the implementation phases of this initiative.

From the inception of the SSI, I and two of my colleagues who are economists and regional development experts, Professors Grant Black and Paul Kochanowski, participated in the process of identifying skills gaps in our region, understanding their causes, and developing solutions to address them. We were invited to collaborate with NIWIB officials throughout all phases of this project including data collection design and reading and commenting on report drafts. While the resulting reports incorporated and therefore benefited from the judgments of our accomplished scholars, I have been impressed throughout this process at the vision, intelligence, commitment, energy and professionalism that our NIWIB officials displayed. There should be no doubt that they led this process in every meaningful way and we are happy to have contributed in support of their efforts.

I believe the effectiveness with which the NIWIB has approached the proposal development stage of the SSI will, most importantly, be matched by what they will bring to implementing their solutions. It is through these activities that we will improve worker training in Indiana and drive economic growth. We in the School of Business and Economics at IU South bend are committed to supporting these efforts.

Sincerely yours,

Robert Ducoffe
Dean



February 7, 2006

EXTENDED LEARNING
SERVICES

- BUSINESS AND
INDUSTRY SERVICES
- CONTINUING EDUCATION
- DISTANCE EDUCATION
- IU SOUTH BEND AT
ELKHART
PLYMOUTH

**Mr. Dan Hendricks
Vice President Strategic Research and Development
Northern Indiana Workforce Investment Board
401 E. Colfax Avenue Suite 307
South Bend, IN 46617**

Dear Mr. Hendricks:

The mission of Extended Learning Services at Indiana University South Bend is to extend community outreach from the university to support social and economic growth initiatives in the region that includes St. Joseph, Elkhart, Kosciusko, Fulton and Marshall Counties. The natural partnership that exists between the university and the Northern Indiana Workforce Investment Board's Strategic Skill Initiative has been apparent to me from our first meeting in August.

Throughout the process of identifying what the specific needs of employers are in this region to analyzing how to close the gap in critical skill shortages in the region's workforce, I have been impressed by the comprehensive and inclusive approach that you and your staff have taken in meeting the challenges of your task. You are providing a valuable link between educators and training providers and the employers in the region. The process thus far has gone from a very broad view of the regional economic development needs to one that is consistently more focused—creating a target that allows us to channel our resources in ways that will positively impact the current needs of the economy. More importantly, your study effectively identifies long term critical needs for workforce development in ways that would maximize the use of technology to extend new economic opportunities to every community in our region.

Indiana University South Bend has a 30 year history of providing professional development training to regional employers. As the only state funded four year educational institution in the area, we are a vital part of the economic future of this region. As you know, the majority of IU South Bend graduates remain in the region and become leaders in the communities and businesses where they live and work. They are both personally and professionally invested in the economic vitality of the region. They contribute to the quality of life, raise their families

1700 Mishawaka Avenue
Post Office Box 7111
South Bend, Indiana
46634-7111

574-520-4261
Fax: 574-520-4428
www.iusb.edu/~cted

here and are part of the quality and stability of the workforce that continually attracts new businesses to locate in Northern Indiana.

During the past five years we have provided customized and professional development training to more than 1275 companies and public entities that include a majority of the employers in the region. A short list includes: 1st Source Bank, AM General, Bayer, Robert Bosch Corporation, Bull Moose Tube, Citigroup, The Chambers of Commerce, Elkhart County Health Department, Honeywell International, Lear Corporation, Memorial Hospital, Minute Maid Company, Skyline Corporation and WNIT Television. We have done training for Northern Indiana Workforce Investment Board and the 21st Century Scholars program. We were happy to share our model of Training Modules for Supervisors with you and hope to partner with you to deliver them to manufacturers and other employers in the region. Since we developed them, we have received excellent evaluations about their effectiveness from the companies that have used them to train supervisors. We are also a provider of medical coding and billing certificate training as well as an on-line provider of Hospital Medical Coding training.

As you can see, we are proud of the contribution IU South Bend makes to the economic growth of our region. We appreciate the opportunity you have given us to partake in the development of the vision being created by the staff of the Strategic Skills Initiative at NIWIB. We look forward to contributing to the delivery of the critical skills training that is needed to maintain and strengthen the economy of our region. Please let me know how we may continue to support you and the important work that you are doing.

Sincerely,



**Jacqueline A. Neuman, Director
Extended Learning Services**

Copy:

Una Mae Reck, Chancellor

Alfred J. Guillaume, Vice Chancellor of Academic Affairs



February 8, 2006

Dan Hendricks
Vice President
Strategic Research & Development
Northern Indiana Workforce Investment Board
401 E. Colfax Ave. Suite 307
South Bend, IN 46617

Dear Dan,

We would like to take this opportunity to offer our support for the Strategic Skills Initiative.

Like Ivy Tech Community College, the Strategic Skills Initiative seeks to improve the economic condition of Indiana and the people who live here. Regionally, Ivy Tech-North Central offers education and training in more than 50 percent of the strategic occupations identified as having critical skill shortages – most notably health occupations and manufacturing. Any program that can increase the number of skilled graduates in these areas is vitally important to the community.

One of the high-wage occupations with critical shortages in our region is respiratory therapist. Funds from the Strategic Skills Initiative would allow Ivy Tech to develop a respiratory therapy program to address this occupational shortage. Our health education programs have a local reputation for rigorous and thorough training and in the programs which require certification testing, our students typically have a 100 percent pass rate. We are also pleased that, for our graduates seeking employment, there is also a nearly 100 percent placement rate. The funding for a respiratory therapy program would allow Ivy Tech to successfully prepare graduates for this type of success as soon as possible.

Additionally, the Strategic Skills Initiative would provide funding to stem the nursing shortage and to educate hospital coders. Increasing the number of skilled workers in these fields will greatly benefit the community.

If the issues and concerns addressed by the Strategic Skills Initiative weren't vitally important to us, the college would not be so committed to the program. Both of us are on the Northern Indiana Workforce Investment Board and Dr. Batzer is on the Strategic Skills Initiative Executive Committee. Additionally, our Manufacturing and Health faculty have been involved in the focus groups to determine need and root causes.


229 DEAN JOHNSON BOULEVARD
SOUTH BEND, INDIANA 46601-3415
574-289-7601

Ivy Tech is an accredited, equal-opportunity, affirmative action community college.

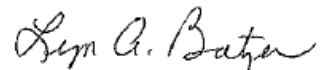
The Strategic Skills Initiative will obviously profit the economic well-being of the region. Involvement from the private business sector, hospitals, educators and public officials proves how necessary both the program and positive results are. With a strong commitment by these groups, success can be easily attained.

Ivy Tech will continue to be an educational provider for the Strategic Skills Initiative and we plan to maintain a strong partnership with the Northern Indiana Workforce Investment Board to the advantage of all involved.

Sincerely,



Virginia B. Calvin, Ed.D.
Chancellor



Lyn A. Batzer, Ed.D.
Dean of Academic Affairs



February 15, 2006

Dan Hendricks
Vice President
Strategic Research & Development
Northern Indiana Workforce Investment Board
401 E. Colfax Ave. Suite 307
South Bend, IN 46617

Dear Dan,

The Department of Workforce and Economic Development (WED), Region Two at Ivy Tech Community College offers its support for Region Two's Strategic Skills Initiative.

Ivy Tech has been singled out by the Governor's office and the General Assembly to be the primary instrument for economic development in the state. To that end, the Department of Workforce and Economic Development is committed to working aggressively to contribute to the state's economic development by preparing more highly skilled workers for the increasingly rigorous, ever-changing demands of the job market.

The Strategic Skills Initiative is a unique opportunity to meet those goals in collaboration with the Northern Indiana Workforce Investment Board. The principal industry in Region Two is clearly manufacturing (excepting St. Joseph County, where higher education is the principal industry but not an issue for SSI due to higher education's unique requirements for training and development) and to that end, the skill gaps identified due to attrition and the effects of globalization make it a primary concern for the Region.

WED has seen the need, as stated in the skill gaps analysis for more highly skilled CNC production supervisors, CNC machinists and programmers, welders, and painters for transportation equipment. We stand ready with our vast educational resources to collaborate in this cutting edge project. We offer instructors with expertise in teaching and technology, a statewide infrastructure of facilities and instructors, courses that lead to portable credentials in industry-recognized certifications and partnerships with industry leaders in curriculum and materials.

WED has been extremely supportive of this project – this department has attended every focus group and I, as Executive Director, have been part of the SSI Consortium in Region Two. We have also invited companies that we do business with to the focus groups to assist the project to determine need and root causes. It is my belief that responsiveness to community needs is paramount to the mission of Ivy Tech Community College, as the second largest state institution of higher education and parallel to the mission of government.

220 DEAN JOHNSON BOULEVARD
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574-289-7001

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Therefore, it is not only natural, but necessary that the community, industry, government, and education work together to satisfy the needs of our citizens for knowledge, skills, and opportunities that secure success for workers as well as industry, and the community. It is in everyone's interest to leverage available resources for the best possible outcomes for ourselves and our children. This can be done only through true collaboration, as this project calls for.

In conclusion:

- Manufacturing is still the key industry in Indiana and it typically provides the more lucrative jobs for workers, who then contribute to the economic engine of the state improving all of our lives.
- Faced with global competition, companies must leverage all of the skills of workers to produce a competitive product. This means addressing emerging needs for skills in incumbent workers as well as providing skilled candidates for employment.
- Companies who are considering locating in Indiana find the most welcoming environment when there is collaboration between industry, the community, government, and education.
- Industry and the community want outcomes; the process by which those outcomes are achieved can be transparent to the user if collaboration exists between the providers.
- Industry, education, and government all have their core competencies. Working together creates a system of competencies that can be applied synergistically to the satisfaction of needs.

The team working on this initiative has identified use of technology in the form of a Mobile Training Lab to serve the entire region's economic and training needs. WED stands ready to participate in this innovative educational endeavor and will lend our expertise in workforce education during this project.

The issues and concerns identified by the Strategic Skills Initiative is something that this department lives and breathes everyday. The department's project managers keep office hours at the Work One centers in St. Joseph, Elkhart, Marshall and Kosciusko counties in order to serve the incumbent and emerging workforce. In addition, personally, I have worked in higher education over fifteen years working with business and industry and feel I have a personal stake in the success of this project.

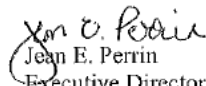
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574-289-7001

Ivy Tech is an accredited, equal opportunity, affirmative action community college.



I look forward to a continued positive relationship with the Strategic Skills Initiative and the Northern Indiana Workforce Investment Board.

Sincerely,

Handwritten signature of Jean E. Perrin in cursive.

Jean E. Perrin
Executive Director
Workforce and Economic Development, Region Two
Ivy Tech Community College

220 DEAN JOHNSON BOULEVARD
SOUTH BEND, INDIANA 46601-3415
574-289-7001

Ivy Tech is an accredited, equal opportunity, affirmative action community college.

CEI Consultants for Educational Institutions`

Robert M. Abene, Ed.D.
6021 Mission Trail, # 2
Granger, Indiana 46530
Telephone: (574) 271-0099
Cell phone: (574) 952-4555
Fax: (574) 271-0098
Email: bobabene@aol.com

February 21, 2006

Dan Hendricks
Vice President for Strategic Research & Development
Northern Indiana Workforce Investment Board

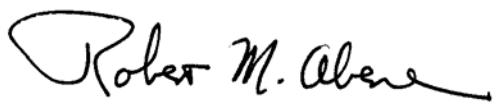
Dear Dan:

This letter is in strong support for the fine work that you, Dr. Pressler, and the entire NIWIB staff have accomplished these past several months in regard to the Strategic Skills Initiative. Yes, there are still many hurdles to jump and a challenging journey ahead, but you have already built a strong foundation for these future efforts to be successfully accomplished.

As a former local college president, and as someone who passionately believes that the economic advancement of this region rests in developing strong linkages between educational/training initiatives and the demand driven needs of area businesses, your work is urgently needed and extremely vital. The introduction of virtual education technology and mobile classroom vehicles to assist in this process is state of the art thinking. Focusing on critical advanced manufacturing needs such as welding and painting, supporting better communication education for new supervisors, and supporting the further development of health care programs to produce additional needed nurses, respiratory therapists, and other allied health professional is very relevant to the needs of this community.

Again, I applaud your work to date and look forward to the continued development of the Strategic Skills Initiative.

Sincerely,

A handwritten signature in black ink that reads "Robert M. Abene". The signature is written in a cursive style with a large, stylized 'R' and 'A'. A vertical red line is positioned to the right of the signature.

Robert M. Abene, Ed.D.



February 9, 2006

Dan Hendricks
Northern Indiana WIB
401 E. Colfax Ave. Suite 307
South Bend, IN 46617

Dear Dan,

The Rochester and Lake Manitou Chamber of Commerce enthusiastically supports the Strategic Skills Initiative, driven locally by the NIWIB. Rochester is located in Fulton County, by far the smallest county in the 5 county region. Although small, we face the same issues as the larger counties, with fewer resources. As we combine our resources within this region, everyone will benefit. We are excited to be part of this consortium and feel that our county has been a part of the process since its inception! By identifying and alleviating critical skill shortages in strategic occupations, we will positively impact the economic growth and prosperity of this region. A must for us to survive in this global economy!

As we continue to work through the process, solutions begin to surface. These solutions will be tied directly to the root causes of the regional occupational skills shortages and will address both short and long term shortages. What better way to assist all Chamber memberships than by giving businesses solutions to existing problems that impede them from succeeding in today's marketplace!

We will continue to assist and participate in the efforts of NIWIB. Their staff has done a tremendous job in compiling information, interviewing businesses and sharing their findings. We are particularly excited about the solutions and the creative, out of the box attitude that has developed. Please support our project and give this request its due consideration.

Sincerely,

A handwritten signature in cursive script that reads "Alison M. Heyde".

Alison M. Heyde
Executive Director
Rochester and Lake Manitou Chamber of Commerce

822 Main Street • Rochester, Indiana 46975 • 219-224-2666 • Fax 219-224-2329



822 Main Street • Rochester, Indiana 46975
Phone: 574-223-3326 • Fax: 574-224-2329

February 9, 2006

Mr. Dan Hendricks
VP Strategic Research & Development
Northern Indiana Workforce Investment Board
401 E. Colfax Avenue, Suite 307
South Bend, IN 46617

Dear Dan:

The Fulton Economic Development Corporation enthusiastically supports the Strategic Skills Initiative, driven by the Northern Indiana Workforce Investment Board. We are located in Fulton County, by far the smallest county in the five-county region. However, we face the same issues as the larger counties, with fewer resources. As we combine our resources within this region, everyone will benefit. We are excited to be part of this consortium and have been a part of the process since its inception. By identifying and alleviating critical skill shortages in strategic occupations, we will positively impact the economic growth and prosperity of this region. This is a must to survive in today's global economy.

As we continue to work through the process, solutions will begin to surface. These solutions will be tied directly to the root causes of the regional occupational skills shortages and will address both short and long term shortages. This will be an excellent way to offer solutions to existing problems that impede our industries in today's marketplace.

We will continue to assist and participate in the efforts of the NIWIB. Their staff has done a tremendous job in compiling information, interviewing businesses and sharing their findings. We are particularly excited about the solutions and the creative attitudes that have developed. Please support our project and give this request its due consideration.

Sincerely yours,

A handwritten signature in cursive script that reads "Terri Johnson".

Terri Johnson
Secretary/Treasurer
Fulton Economic Development Corporation

"Your window to growth and opportunity."

E-Mail: fedco@rtcol.com • Web Site: <http://www.fultondevelopment.org> • 1-888-229-9374



February 22, 2006

Dan Hendricks
VP Strategic Research & Development
Northern Indiana Workforce Investment Board
401 E. Colfax Ave. Suite 307
South Bend, IN 46617


Dear Dan:

Congratulations on the excellent work you and others have done regarding the Strategic Skills Initiative. It is a pleasure to serve on the Region 2 Workforce Investment Board and to have seen the evolution of the process.

Businesses in our region, including Elkhart, Fulton, Kosciusko, Marshall, and St. Joseph counties, have long recognized the need to identify and alleviate skill shortages in occupations that are critical to our economic growth and prosperity. The work that has been accomplished under your leadership to identify skill shortages, determine the root causes, and suggest solutions has been outstanding.

We recognize the need for available funding to achieve the ultimate goal – implementation of solutions to alleviate the critical skill shortages. Please accept this as a sincere and strong endorsement of your continuing efforts.

If I can be of help in the future please don't hesitate to call on me.

Sincerely,

Paul R. Markowski
Vice President

The Commerce Center
401 E. Colfax Ave., Suite 310
P.O. Box 1677
South Bend, IN 46634-1677

Phone: 574.334.0031
Fax: 574.389.0038
www.sjchamber.org

The Champion of Business



February 14, 2006

Mr. Dan Hedricks
Vice President Strategic Research
& Development
Northern Indiana Workforce Investment Board
401 E Colfax Ave – Ste 307
South Bend, IN 46617

Re: Strategic Skills Initiative

Dear Dan:

This communication is in support of the Strategic Skills Initiative being formulated by the Northern Indiana Workforce Investment Board.

As a supporter of this initiative, it is my goal that this initiative will assist Kosciusko County in identifying and helping improve critical skill shortages in occupations that are important to helping continue our economic vibrancy.

I have tried to be as involved in the process of our Strategic Skills Initiative as much as my schedule would allow. As we discussed in some of the earlier meetings, we have a critical shortage of machinists – CNC operators, Swiss lathe operators and the like, to service our growing biomedical companies. Representatives from these companies are always telling us that they cannot find qualified workers to produce medical implant devices, the instruments to do the surgery and the cases to house the instruments in this area.

Of course, our entire region faces a shortage of medical workers, which affects every resident and our quality of life.

I am pleased to be a part of the Strategic Skills Initiative for our region and look forward to helping implement it by contributing time and aptitude from my staff, as well as the wealth of talent available from members of the Chamber of Commerce that we may call upon.

Sincerely,

Joy McCarthy-Sessing

Joy McCarthy-Sessing
President

313 South Buffalo Street – Suite A Warsaw, Indiana 46580
(574) 267-6311 1-800-776-6311 FAX (574) 267-7762
www.wkchamber.com



CITY OF SOUTH BEND

STEPHEN J. LUECKE, MAYOR

OFFICE OF THE MAYOR

February 13, 2006

To Whom It May Concern:

As Assistant to the Mayor of South Bend (who is the Chief Local Elected Official of the Northern Indiana Workforce Investment Board) I wish to express my full support for the Board's Strategic Skills Initiative. For the past four years I have served on NIWIB's Board of Directors as a member of the Executive Board, the Finance Committee, and the Advocacy Council, representing the Mayor.

In recognition of the vital importance of the SSI's purpose to "identify and alleviate critical skill shortages in strategic occupations that are essential to the economic growth and prosperity of our region" I have been a very active member of the SSI Consortium since its inception. A couple of years ago our Advocacy Council realized we needed to change direction if our Work One partners were to be successful in preparing our work force for current employment, as well as for potential opportunities that lie ahead. Job orders were 'way behind the numbers of workers advancing through the programs because they were not trained to fill the actual needs of the employers. An "employer-driven" philosophy was then successfully implemented. The SSI purpose stated above will play an integral part in accomplishing desired success for the future.

South Bend has begun to position itself as a technological center for the future with the Metro-net, fiber optics lines, technical parks, and other advancements either already in operation, or in the planning stages. With the Warsaw medical and Elkhart RV industries already in full force, we need to involve the entire Region 2 in our efforts to train our work force for the right things, since we're all inter-related.

Part of my own job description will indicate a little of why my personal interest is so strong on the issues: I am "to act as a resource for the enhancement of the City's initiatives on business development issues, minority and small business assistance and recruitment, workforce recruitment to reflect the community's diversity, etc."

COUNTY-CITY BUILDING • 227 W. JEFFERSON BOULEVARD • SOUTH BEND, INDIANA 46601
PHONE 574/235-9261 • FAX 574/235-9892 • TDD 574/235-5567

Your kind attention to this matter will be greatly appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Fred W. Thon". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Federico W. Thon
Assistant to the Mayor, South Bend

c. Mayor Stephen J. Luecke

U.S. Department of Labor
2420 Viridian Drive – Suite G
South Bend, IN 46628-4300



BUREAU OF APPRENTICESHIP AND TRAINING

Employment and Training Administration

PH: (574) 236-8295
FAX: (574) 236-8311

February 28, 2006

Mr. Dan Hendricks
VP Strategic Research & Development
Northern Indiana Workforce Investment Board
401 E. Colfax Avenue – Suite 307
South Bend, IN 46617

Dear Mr. Hendricks:

As a long time WIB member, SSI consortium participant, and civil servant working in the field of Apprenticeship and Training promotion, I have had occasion to cross paths with employers in numerous counties and from across many industry sectors. Some are consistently proactive about recognizing and addressing the training needs of their workforce. These same employers generally excel at motivating their workforce and also at recognizing and rewarding their workers' achievements. Many other employers and workers, for a multitude of reasons, struggle.

Creating and maintaining a dynamic and flexible workforce must be the goal of every vibrant economy. Toward this end, enabling individuals to efficiently acquire job-related skills and companies to efficiently bridge training gaps are critical; they are also two of the expected outcomes of the Region 2 WIB Strategic Skills Initiative proposal.

To the extent that the creative strategies proposed will maximize taxpayer investment, broadly and successfully address skill shortages, and allow most participants to advance in their careers, I believe the requested funds will be wisely allocated.

Sincerely,

Kathleen L. Sokolowski
Apprenticeship and Training Representative

February 16, 2006

Mr. Juan Manigault
Chairman
Northern Indiana Workforce Investment Board
401 E. Colfax Ave.
South Bend, IN 46601

WorkOne

South Bend

851 S. Marietta St., Ste 500
South Bend, IN 46601-3254
Phone: 574.237.9675
FAX: 574.239.2672
www.work-one.com

Dear Juan:

I just want to reiterate my support for the Strategic Skills Initiative. The objectives of the program are right on target and the research has been very thorough. The employers who have participated in the process all feel it is essential for our region's economic growth to identify the skill gaps in our workforce and to find some effective solutions for the future. Everyone is very positive and looking forward to helping to implement the solutions identified by the SSI Program.

I personally am very interested in doing everything possible to build strong relationships with the employers in our region. And, to that end, the mission of the Strategic Skills Initiative provides a means to substantially improve the workforce that is available to businesses in this region. There isn't anything we could do that would help them more. It not only makes them more competitive, globally, but also is a strong incentive for them to remain in our region and continue to provide job growth.

The regional focus of the Strategic Skills Initiative is also very important. I participated in focus group sessions in St. Joseph, Elkhart, Marshall and Kosciusko Counties and many common problems were identified and innovative solutions discussed. In addition, the specific needs of each county were also discovered. We also had very frank and open discussions with the WorkOne Employer Advisory Councils in each of the region's counties. The findings there also supported the SSI research conclusions.

We have also worked with the economic development organizations throughout the region and they also are very supportive of SSI. They feel it is essential to fill the skill gaps in the region's workforce in order to attract new businesses to the area and, also, to retain the companies that are here. They also feel SSI is one of the strongest support programs for economic development that they have ever had.

In the future, I see WorkOne's Business Services Division playing a key role in obtaining ongoing support for the SSI Program from employers throughout the region. This would include financial support, as well as time and resources. We would also contribute the time and personnel needed to help initiate the workforce solutions into the region's economy. Partnerships will most certainly be the key to sustaining the SSI strategies over the next ten years. I think we can play an important role in developing those key relationships.

Sincerely,



Howard Blackwood
WorkOne Business Services Regional Manager



February 16, 2006

Dear Juan,

This letter is being written to show our support for the SSI project. Based upon the presentations Dan Hendricks and staff have worked hard to identify the critical skill shortages that are essential to the economic growth and prosperity of our region.

As part of the WorkOne system, Goodwill provides training to individuals who are looking to build careers. The SSI project will assist us in shaping our goals and focus for training, as we will have a better understanding of the skill areas needed.

The information will assist the efforts of Region 2 to provide a demand-driven WorkOne system for both the employer and the employee. The SSI project will assist in the next level of service to both employers and clients.

Our region is working toward ensuring that we are on the cutting edge of service delivery. The SSI project provides the next step toward the achievement of this goal. We have worked hard to become a demand-driven system. To begin providing the potential solutions in the SSI project will allow Region 2 to continue to emerge as the place that meets the demands of the employer and employee.

As part of the WorkOne system, please let me know what else Goodwill can do to assist in this project.

Sincerely,

Debie M. Coble
Vice President of Vocational Services